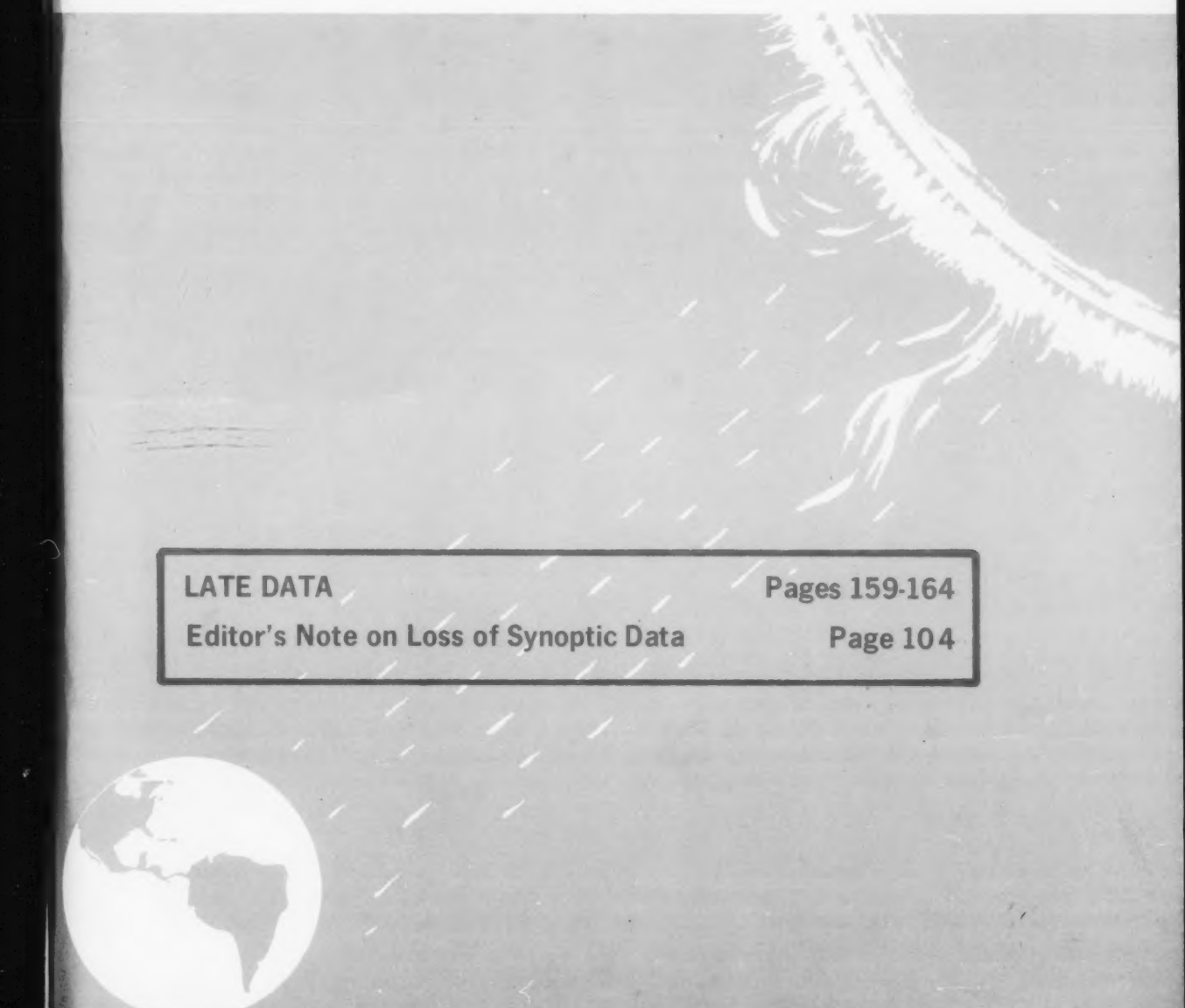
NOVEMBER 1982 NUMBER 459 -- Part I

JAN 12 1983

Solar-Geophysical Data prompt reports

Data for October 1982, September 1982 & Late Data
Explanation of Data Reports Issued as Number 450 (Supplement) February 1982



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Editor's Note on Loss of Synoptic Data Page 104

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Solar - Geophysical Data

NO. 459 NOVEMBER 1982

Part I (Prompt Reports)

DATA FOR
OCTOBER 1982
SEPTEMBER 1982

NATIONAL GEOPHYSICAL DATA CENTER
BOULDER, COLORADO

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To standardize referencing these reports in the open literature, the following format is recommended:
Solar-Geophysical Data, 450 Part I (or Part II), pages, February 1982, U.S. Department of Commerce (Boulder, Colorado, U.S.A. 80303).

SOLAR-GEOPHYSICAL DATA

No. 459

Issued in two parts

Helen E. Coffey, Editor

Joe H. Allen, Chief
Solar-Terrestrial Physics Division

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A.4	H-alpha Filtergrams	448A 52	449A 50	450A 42	451A 58	452A 50	453A 40	454A 44	455A 64	456A 58	457A 50	458A 48	459A 44	
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A.10a	169 MHz - Interferometric Observations (Nancay)	447A 28	448A 25	449A 25	450A 23	452A162	452A 28	455A162	454A 21	455A 30	458A 25		459A 26	
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A.10d	43 cm East-West Solar Scans (Fleurs)	447A 33	448A 29	449A 29	450A 27	451A 34	452A 32	----	----	----	456A 30	457A 30	458A 29	459A 29
A.10e	10.7 cm East-West Solar Scans (Ottawa-ARO)	447A 31	448A 27	449A 27	450A 25	451A 32	452A 30	453A 25	454A 23	455A 32	456A 29	457A 28	458A 27	459A 27
A.10f	3 cm East-West Solar Scans (Toyokawa)	447A 29	448A 26	449A 26	450A 24	451A 31	452A 29	453A 24	454A 22	455A 31	456A 28	457A 27	458A 26	
A.10g	8 cm East-West Solar Scans (Toyokawa)	447A 30	----	----	----	----	----	----	----	----	----	----	----	
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C.4e	Solar Radio Spectral Obs. (Weissenau)	448A173	449A132	450A122	451A140	452A124	453A118	454A121	455A143	456A124	457A130	458A125	459A131	
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C.4k	Solar Radio Spectral Obs. (Learmonth)	448A134	449A132	450A122	451A140	452A124	453A118	454A121	455A143	456A124	457A130	458A125	459A131	
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D.1ba	27-day Chart of Kp Indices	448A152	449A161	450A140	451A153	452A154	453A138	454A136	455A155	456A151	457A156	458A144	459A152	
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D.1e	Reduced Magnetograms													
D.1f	Sudden Commencement and Solar Flare Effects	448A153	449A163	450A142	451A160	452A157	453A142	456A160		456A155	457A160	459A164	459A155	
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D.1h	Geomagnetic Substorm Log (Boulder)	447A 47	448A 45	449A 39	450A 35	451A 52	452A 44	453A 34	454A 34	455A 58	456A 49	457A 43	458A 40	459A 38
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F.1e	Cosmic Ray Neutron Counts (Alert)	449A180	450A149	450A134	451A151	452A151	453A135	455A177	455A152	456A148	457A153	459A160	459A149	
F.1h	Cosmic Ray Neutron Counts (Thule)	448A149	449A158	450A134	451A151	452A151	453A135	454A131	455A152	456A148	457A153	458A143	459A149	
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Notes:

"448A 52" listed under 1981 Oct means that the sunspot drawings for Oct 1981 were contained in Solar-Geophysical Data Number 448 - Part I, beginning on page 52.

A = Part I, B = Part II.

----- = no data available.
blank = data not yet received.

SGD 459 Part I (Prompt)

OCTOBER 1982 DATA

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ALERT PERIODS

INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

OCTOBER 1982

SUMMARY OF THE GEOALERT WWA MESSAGES

Message serial number	Date of issue	Date of observation	Wolf number	10 cm solar flux	A index	Active Regions				Outstanding events	Forecasts			Alert Situations
						Location Lat-Long	No. of Flares Total	M	X		Date	Location Lat-Long	Desc*	
274	01	30	183	202	012	S18W52	1	0	0	Presto Tenflare	01	S18W52	Q	SOLALERT 01/03
						S10W36	0	0	0	210 Flux Units		S10W36	Q	MAGALERT MINOR 01/03
						N15W26	2	0	0	30/0134Z.Soflare		N15W26	E	
						S12W26	5	0	0	M3/1B N16E06		S12W26	E	
						N14W11	10	1	0	30/0132Z Duration		N14W11	A	
						S19W00	1	0	0	46 Minutes.		S19W00	Q	
						S02E01	1	0	0			S02E01	Q	
275	02	01	258	205	020	S17W65	0	0	0		02	S17W65	Q	SOLALERT 02/04
						S09W51	0	0	0			S09W51	Q	MAGALERT 02/03
						S12W40	6	0	0			S12W40	E	
						N16W38	2	0	0			N16W38	E	
						N15W24	4	0	0			N15W24	A	
						N24W20	0	0	0			N24W20	Q	
						N29W19	0	0	0			N29W19	Q	
						S19W17	1	0	0			S19W17	E	
						S02W14	0	0	0			S02W14	Q	
						N12W13	0	0	0			N12W13	Q	
						N17E03	0	0	0			N17E03	Q	
276	03	02	276	218	022	S17W79	0	0	0		03	S17W79	Q	SOLALERT 03/04
						S08W65	0	0	0			S08W65	Q	MAGNIL
						S12W53	6	0	0			S12W53	E	
						N17W50	0	0	0			N17W50	Q	
						N15W37	7	0	0			N15W37	E	
						N23W34	0	0	0			N23W34	Q	
						S18W28	2	0	0			S18W28	E	
						S02W27	1	0	0			S02W27	Q	
						N16W26	4	0	0			N16W26	Q	
						S20W22	0	0	0			S20W22	Q	
						N17W10	3	0	0			N17W10	Q	
						N09E16	0	0	0			N09E16	Q	
						S09E75	0	0	0			S09E75	Q	
277	04	03	215	195	012	S12W67	4	0	0		04	S12W67	E	SOLALERT 04/05
						N18W62	0	0	0			N18W62	Q	MAGQUIET
						N14W50	5	0	0			N14W50	E	
						N23W43	0	0	0			N23W43	Q	
						S02W42	0	0	0			S02W42	Q	
						S17W41	2	0	0			S17W41	E	
						N13W40	1	0	0			N13W40	Q	
						S21W32	0	0	0			S21W32	Q	
						N16W25	1	0	0			N16W25	Q	
						S10E63	0	0	0			S10E63	Q	
278	05	04	179	184	013	S12W79	2	0	0		05	S12W79	E	SOLNIL
						N18W74	0	0	0			N18W74	Q	MAGQUIET
						N14W63	5	0	0			N14W63	E	
						N01W56	0	0	0			N01W56	Q	
						S18W54	0	0	0			S18W54	Q	
						N13W53	2	0	0			N13W53	Q	
						S19W46	0	0	0			S19W46	Q	
						N17W40	0	0	0			N17W40	Q	
						S12E50	0	0	0			S12E50	Q	
						N07E74	0	0	0			N07E74	Q	
279	06	05	169	164	009	S13W91	0	0	0		06	S13W91	Q	SOLQUIET
						N18W85	1	0	0			N18W85	Q	MAGQUIET
						N14W75	2	0	0			N14W75	Q	
						S02W69	0	0	0			S02W69	Q	
						S18W68	0	0	0			S18W68	Q	
						N13W66	7	0	0			N13W66	Q	
						N16W53	0	0	0			N16W53	Q	
						N09W39	0	0	0			N09W39	Q	
						N15W20	0	0	0			N15W20	Q	
						S10E37	0	0	0			S10E37	Q	
						N07E60	0	0	0			N07E60	Q	
280	07	06	115	152	018	N14W89	4	1	0		07	N14W89	E	SOLQUIET
						S17W81	1	0	0			S17W81	Q	MAGQUIET
						N13W80	4	0	0			N13W80	Q	
						N08W54	0	0	0			N08W54	Q	
						S21E17	0	0	0			S21E17	Q	
						S11E23	1	0	0			S11E23	Q	
						N22E45	1	0	0			N22E45	Q	
						N08E47	0	0	0			N08E47	Q	
281	08	07	096	140	028	N08W68	2	0	0		08	N08W68	Q	SOLQUIET
						S23E06	0	0	0			S23E06	Q	MAGQUIET
						S12E07	0	0	0			S12E07	Q	
						S12E09	1	0	0			S12E09	Q	
						N08E34	0	0	0			N08E34	Q	
						N22E35	5	0	0			N22E35	Q	
282	09	08	080	137	017	N07W82	2	0	0		09	N07W82	Q	SOLQUIET
						S12W02	1	0	0			S12W02	Q	MAGQUIET
						N15E19	0	0	0			N15E19	Q	
						N08E22	0	0	0			N08E22	Q	
						N22E23	1	0	0			N22E23	Q	

ALERT PERIODS

INTERNATIONAL URSIGRAM
AND WORLD DAYS SERVICE

OCTOBER 1982

SUMMARY OF THE GEOALERT WWA MESSAGES

Message serial number	Date of issue	Date of observation	Wolf number	10 cm solar flux	A index	Active Regions: Location Lat-Long	No. of Flares: Total	M	X	Outstanding events	Forecasts: Date	Location Lat-Long	Desc*	Alert Situations
283	10	09	127	138	005	N15W32	0	0	0		10	N15W32	Q	SOLQUIET
						S12W15	0	0	0			S12W15	Q	MAGQUIET
						N15E04	0	0	0			N15E04	Q	
						N08E05	0	0	0			N08E05	Q	
						N22E10	4	0	0			N22E10	E	
						N08E27	0	0	0			N08E27	Q	
						S12E74	0	0	0			S12E74	Q	
						N17E80	0	0	0			N17E80	Q	
284	11	10	134	135	010	S10W28	0	0	0		11	S10W28	Q	SOLQUIET
						N15W11	0	0	0			N15W11	Q	MAGQUIET
						N07W06	0	0	0			N07W06	Q	
						N22W04	2	0	0			N22W04	E	
						N09E11	2	0	0			N09E11	Q	
						S10E20	0	0	0			S10E20	Q	
						S13E61	0	0	0			S13E61	E	
						N16E66	0	0	0			N16E66	E	
285	12	11	157	138	012	S22W48	0	0	0		12	S22W48	Q	SOLQUIET
						S18W41	0	0	0			S18W41	Q	MAGQUIET
						N13W28	0	0	0			N13W28	Q	
						N23W18	9	0	0			N23W18	E	
						N08W18	0	0	0			N08W18	Q	
						N12W15	0	0	0			N12W15	Q	
						N09W03	1	0	0			N09W03	Q	
						S10E05	0	0	0			S10E05	Q	
						S13E47	0	0	0			S13E47	Q	
						N16E52	0	0	0			N16E52	E	
286	13	12	208	137	010	S22W63	0	0	0		13	S22W63	Q	SOLQUIET
						S11W55	0	0	0			S11W55	Q	MAGQUIET
						N13W39	1	0	0			N13W39	Q	
						S13E34	0	0	0			S13E34	Q	
						N23W32	3	0	0			N23W32	E	
						N13W29	0	0	0			N13W29	Q	
						N09W18	0	0	0			N09W18	Q	
						S11W07	0	0	0			S11W07	Q	
						N03E06	0	0	0			N03E06	Q	
						N12E14	0	0	0			N12E14	Q	
						N07E22	3	0	0			N07E22	Q	
						N17E40	0	0	0			N17E40	Q	
						S08E80	0	0	0			S08E80	Q	
287	14	13	158	145	020	S24W75	0	0	0		14	S24W75	Q	SOLQUIET
						S11W67	0	0	0			S11W67	Q	MAGQUIET
						N22W44	4	0	0			N22W44	E	
						S10W21	0	0	0			S10W21	Q	
						N03W09	1	0	0			N03W09	Q	
						N11W01	0	0	0			N11W01	Q	
						N07E07	2	0	0			N07E07	E	
						S13E25	0	0	0			S13E25	Q	
						S07E65	2	0	0			S07E65	E	
288	15	14	120	141	032	S11W81	0	0	0		15	S11W81	Q	SOLQUIET
						N22W58	4	0	0			N22W58	E	MAGQUIET
						S10W34	2	0	0			S10W34	Q	
						N03W23	3	0	0			N03W23	Q	
						N07W08	1	0	0			N07W08	E	
						N18E12	1	0	0			N18E12	Q	
						S07E51	4	0	0			S07E51	E	
289	16	15	110	135	007	N23W72	0	0	0		16	N23W72	E	SOLQUIET
						N03W37	1	0	0			N03W37	E	MAGQUIET
						N07W21	0	0	0			N07W21	Q	
						N16E01	0	0	0			N16E01	Q	
						S15E01	1	0	0			S15E01	Q	
						S07E39	5	0	0			S07E39	E	
						S09E47	2	0	0			S09E47	Q	
290	17	16	094	131	015	N22W84	0	0	0		17	N22W84	Q	SOLQUIET
						S09W61	1	0	0			S09W61	Q	MAGQUIET
						N03W50	1	0	0			N03W50	Q	
						N06W35	0	0	0			N06W35	Q	
						S15W14	0	0	0			S15W14	Q	
						S07E25	4	0	0			S07E25	E	
291	18	17	091	131	017	S09W72	0	0	0		18	S09W72	Q	SOLQUIET
						N04W63	1	0	0			N04W63	Q	MAGQUIET
						N06W51	1	0	0			N06W51	Q	
						S14W26	1	0	0			S14W26	Q	
						N16E03	0	0	0			N16E03	Q	
						S07E12	2	0	0			S07E12	E	
						N16E20	0	0	0			N16E20	Q	
292	19	18	062	134	018	N04W78	0	0	0		19	N04W78	Q	SOLQUIET
						N06W66	0	0	0			N06W66	Q	MAGQUIET
						S07W01	2	0	0			S07W01	E	
						S07E64	0	0	0			S07E64	Q	
						S09E80	1	0	0			S09E80	Q	

ALERT PERIODS

INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

OCTOBER 1982

SUMMARY OF THE GEOALERT WWA MESSAGES

Message serial number	Date of issue	Date of observation	Wolf number	10 cm solar flux	A index	Active Regions				Outstanding events	Forecasts			Alert Situations
						Location	No. of Flares				Date	Location	Desc^n	
						Lat-Long	Total	M	X			Lat-Long		
293	20	19	102	138	014	N06W79	0	0	0		20	N06W79	Q	SOLQUIET
						N08W63	0	0	0			N08W63	Q	MAGQUIET
						N14W21	0	0	0			N14W21	Q	
						S07W15	3	0	0			S07W15	E	
						S14E17	1	0	0			S14E17	Q	
						S07E51	0	0	0			S07E51	Q	
						S09E70	3	0	0			S09E70	E	
294	21	20	103	149	018	N06W93	0	0	0		21	N06W93	Q	SOLQUIET
						S07W29	0	0	0			S07W29	Q	MAGQUIET
						S14E05	0	0	0			S14E05	Q	
						N10E07	0	0	0			N10E07	Q	
						S07E37	0	0	0			S07E37	Q	
						S09E57	3	0	0			S09E57	E	
						N12E64	0	0	0			N12E64	Q	
295	22	21	133	163	008	S08W42	1	0	0		22	S08W42	Q	SOLQUIET
						S14W09	0	0	0			S14W09	Q	MAGQUIET
						N10W08	1	0	0			N10W08	Q	
						S07E22	1	0	0			S07E22	Q	
						S10E43	3	0	0			S10E43	E	
						N12E50	0	0	0			N12E50	Q	
						N13E72	3	0	0			N13E72	Q	
296	23	22	176	170	008	S07W56	0	0	0		23	S07W56	Q	SOLQUIET
						S14W22	0	0	0			S14W22	Q	MAGQUIET
						N12W20	0	0	0			N12W20	Q	
						S08E09	0	0	0			S08E09	Q	
						S10E28	2	0	0			S10E28	E	
						N11E35	0	0	0			N11E35	Q	
						N12E65	7	0	0			N12E65	Q	
						S07E70	1	0	0			S07E70	Q	
						N06E75	0	0	0			N06E75	Q	
297	24	23	214	182	008	S07W69	0	0	0		24	S07W69	Q	SOLALERT 24/26
						N10W35	0	0	0			N10W35	Q	MAGALERT 24/25
						S13W35	0	0	0			S13W35	Q	
						N13E13	3	0	0			N13E13	Q	
						S10E13	14	1	0			S10E13	E	
						N12E19	2	0	0			N12E19	Q	
						S14E35	1	0	0			S14E35	Q	
						N13E47	6	0	0			N13E47	Q	
						S06E58	6	0	0			S06E58	Q	
						N09E62	0	0	0			N09E62	Q	
298	25	24	227	193	006	S08W84	0	0	0		25	S08W84	Q	SOLALERT 25
						S12W50	0	0	0			S12W50	Q	MAGALERT 25
						N10W48	3	0	0			N10W48	Q	
						N13W01	2	0	0			N13W01	Q	
						S10E02	9	0	0			S10E02	E	
						N12E07	4	0	0			N12E07	Q	
						S14E22	0	0	0			S14E22	Q	
						N11E34	12	1	0			N11E34	Q	
						N16E42	0	0	0			N16E42	Q	
						S06E43	2	0	0			S06E43	Q	
						N07E48	1	0	0			N07E48	Q	
299	26	25	243	202	021	S07W93	0	0	0		26	S07W93	Q	SOLALERT 26
						N10W62	0	0	0			N10W62	Q	MAGALERT 26/27
						N13W15	3	0	0			N13W15	Q	
						S10W11	14	0	0			S10W11	E	
						N12W07	3	0	0			N12W07	Q	
						S13E08	0	0	0			S13E08	Q	
						N12E20	7	1	0			N12E20	E	
						N16E28	5	0	0			N16E28	Q	
						S06E30	8	0	0			S06E30	Q	
						N07E35	0	0	0			N07E35	Q	
						N07E53	0	0	0			N07E53	Q	
300	27	26	237	196	025	N09W73	0	0	0		27	N09W73	Q	SOLALERT
						N12W28	0	0	0			N12W28	Q	MAGALERT
						S10W25	10	0	0			S10W25	E	
						N12W20	1	0	0			N12W20	Q	
						S13W05	0	0	0			S13W05	Q	
						N10W03	2	0	0			N10W03	Q	
						N12E07	5	0	0			N12E07	E	
						N13E12	0	0	0			N13E12	Q	
						S06E15	4	0	0			S06E15	Q	
						N06E38	0	0	0			N06E38	Q	
301	28	27	210	191	016	N08W86	0	0	0	Presto Soflare	28	N08W86	Q	SOLALERT
						N13W41	3	0	0	M3/2B S11W22		N13W41	Q	MAGALERT
						S12W38	5	2	0	27/0331Z Duration		S12W38	E	
						N11W36	0	0	0	33 Minutes.Tenflare		N11W36	Q	
						N09W16	0	0	0	730 Flux Units		N09W16	Q	
						N12W06	10	0	0	27/0427Z Duration		N12W06	E	
						N14E02	0	0	0	40 Minutes.		N14E02	Q	
						S06E02	4	0	0			S06E02	E	
302	29	28	164	184	014	N13W54	2	0	0		29	N13W54	Q	SOLNIL
						S11W51	8	0	0			S11W51	E	MAGALERT MINOR 29

ALERT PERIODS

INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

OCTOBER 1982

SUMMARY OF THE GEOALERT WWA MESSAGES

Message serial number	Date of issue	Date of observation	Wolf number	10 cm solar flux	A index	Active Regions: Location Lat-Long	No. of Flares: Total	M	X	Outstanding events	Forecasts: Date	Location Lat-Long	Desc*	Alert Situations
						N12W48	0	0	0			N12W48	Q	
						N10W32	1	0	0			N10W32	Q	
						N13W19	3	0	0			N13W19	E	
						S21W16	0	0	0			S21W16	Q	
						S06W11	2	0	0			S06W11	E	
						N08E12	0	0	0			N08E12	Q	
303	30	29	138	177	033	N12W70	5	0	0		30	N12W70	Q	SOLQUIET
						S11W65	7	0	0			S11W65	E	MAGALERT MINOR 30
						N14W57	1	0	0			N14W57	Q	
						N10W47	1	0	0			N10W47	Q	
						N13W31	3	0	0			N13W31	Q	
						S21W28	0	0	0			S21W28	Q	
						S06W26	3	0	0			S06W26	E	
						N07W00	1	0	0			N07W00	Q	
304	31	30	137	169	028	N12W84	1	0	0		31	N12W84	Q	SOLQUIET
						S10W80	1	0	0			S10W80	E	MAGNIL
						N14W71	0	0	0			N14W71	Q	
						N11W45	0	0	0			N11W45	Q	
						S06W39	1	0	0			S06W39	E	
						S19W35	0	0	0			S19W35	Q	
						N07W12	5	0	0			N07W12	Q	
						S09W01	0	0	0			S09W01	Q	
305	01	31	118	168	025	N13W84	1	0	0		01	N13W84	Q	SOLQUIET
						N10W58	0	0	0			N10W58	Q	MAGALERT 01
						S07W53	1	0	0			S07W53	E	
						N06W25	2	0	0			N06W25	E	
						S10W14	0	0	0			S10W14	Q	
						S24E51	0	0	0			S24E51	Q	
						N21E74	0	0	0			N21E74	Q	

PRESTO MESSAGES (THE RAPID REPORT OF MAJOR EVENTS)

27 OCTOBER 1982 TOYOKAWA 27/0445Z TENFLARE 130 FLUX UNITS 27/0404Z DURATION 13 MINUTES
27 OCTOBER 1982 TOYOKAWA 27/0520Z TENFLARE 720 FLUX UNITS 27/0428Z DURATION 40 MINUTES
27 OCTOBER 1982 SYDNEY 27/0505Z TENFLARE 626 FLUX UNITS 27/0440Z
27 OCTOBER 1982 BOULDER 27/0646Z SOFLARE M3/2B S11W22 27/0331Z DURATION 32 MINUTES
27 OCTOBER 1982 BOULDER 27/0646Z TENFLARE 730 FLUX UNITS 27/0427Z DURATION 33 MINUTES

RELATIVE SUNSPOT NUMBERS
INTERNATIONAL, R_I

	1981 FINAL		1982 FINAL			1982 PROVISIONAL						
DAY	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT
1	165	193	92	258	168	145	63	70	50	55	115	132
2	222	197	94	241	174	115	57	83	41	68	124	164
3	218	212	112	232	175	151	46	94	33	68	146	143
4	221	212	109	221	177	137	58	104	42	81	176	120
5	233	219	112	219	163	112	63	111	50	97	160	109
6	199	234	86	230	165	117	64	108	32	128	141	55
7	192	244	94	226	146	130	69	115	33	144	117	54
8	184	249	97	232	140	131	89	127	49	150	115	55
9	134	258	98	211	116	132	47	142	61	161	100	54
10	147	253	85	181	122	138	53	147	110	155	81	88
11	146	263	46	158	119	152	58	138	146	157	86	87
12	160	240	52	156	135	142	75	144	177	138	78	92
13	158	185	51	162	155	148	78	139	219	113	81	98
14	178	159	58	142	153	136	58	137	222	100	104	88
15	139	113	81	134	140	127	52	125	234	100	129	71
16	126	66	76	111	156	122	69	128	263	86	133	65
17	103	80	111	120	180	108	76	136	272	93	127	54
18	108	79	139	103	168	91	89	134	220	105	107	39
19	90	74	143	107	167	87	110	134	200	91	117	56
20	82	57	134	119	160	93	112	139	180	77	104	70
21	82	65	134	120	153	91	98	143	129	79	102	91
22	73	75	121	100	146	109	121	146	99	90	95	100
23	65	86	93	97	144	138	107	116	74	71	97	128
24	59	68	70	120	122	145	110	112	27	79	109	145
25	60	62	82	128	152	149	88	92	25	101	118	134
26	60	100	119	136	147	150	117	94	37	98	138	135
27	77	104	125	154	182	126	130	49	22	104	133	131
28	130	136	168	163	179	90	108	36	19	120	140	103
29	148	132	216		169	85	102	32	23	132	144	94
30	165	112	211		162	75	66	38	38	134	160	96
31		126	237		132		89		54	109		73
MEAN	137.5	150.1	111.2	163.6	153.8	122.5	81.4	110.4	102.6	105.9	119.2	94.3

1981 Yearly Mean = 140.4
Zurich R_Z sunspot number replaced by international R_I sunspot number beginning with January 1981 data.
Errata to SGD, 456 Part I, page 8, August issue: mean R_I should be 102.6 and not 026.

DAILY SOLAR FLUX AT 2800 MHz
OTTAWA ARO
FLUX ADJUSTED TO 1 A.U., S_a

	1981		1982									
DAY	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT
1	222.5*	230.7*	179.9	284.8*	231.3	172.2*	151.7	134.2	106.5	123.4	184.3*	205.2
2	241.3*	230.3*	177.2	279.7*	228.3	172.0*	147.4	135.1	106.9	138.2*	168.7*	209.4*
3	255.3*	238.6	176.1	272.9*	230.1	169.9	147.7	141.5	109.4	153.5*	171.0*	197.0A
4	263.1	241.7	170.4	252.8*	238.3*	158.2	144.7	158.2*	111.5	167.3	188.1*	182.3*
5	254.1	260.0	165.5	245.2	245.4*	159.9*	148.7	156.6*	114.1	180.9	179.4	163.9
6	244.6	262.1	166.8	245.2	230.0*	165.2	153.0	149.6*	121.3	201.2	172.1	151.9
7	241.4	275.6*	166.9*	239.9	228.3	164.0*	151.0	158.6*	128.2*	219.6	176.8	140.2
8	234.7*	287.8	156.9	245.1*	207.1*	162.1*	150.8	167.3	150.3*	217.5*	178.5	136.9
9	232.6	292.4*	164.4	231.7	192.2	167.3*	139.8	177.4	176.6*	212.5	179.2	137.4
10	231.0*	278.7	145.7	213.7	178.9*	177.1*	130.7	196.0*	203.5*	209.5	165.6	134.8
11	217.0	266.7*	136.3	211.1*	178.2	178.7*	132.3	224.2	226.4*	205.0*	158.3	137.3
12	223.5	254.2*	132.4	204.0*	181.2	177.5*	132.3	238.3*	239.7*	195.2*	152.5*	136.4
13	215.9	218.9	127.5	194.9*	185.5	170.9	129.8	240.2	252.6*	182.9*	151.3	143.9
14	207.4	193.0	130.5	185.3	201.3	157.9	132.2	240.8	269.2*	176.8	147.4	140.4
15	191.2	172.6	136.3	180.3	207.6*	152.2	132.1	235.8	274.0	173.0	149.0*	134.1
16	181.2	157.4	146.7	170.5	227.7	148.2	139.0	210.6*	269.4*	161.4	147.3	129.8
17	172.7	144.2	152.6	162.5	230.4	145.9*	142.2*	206.0*	273.3	165.1	147.0*	130.1
18	160.8*	136.3*	167.6	165.7	226.8	147.0	146.8	200.7*	247.2*	166.4*	143.2	132.8
19	157.0	129.7	169.4	170.9*	219.7*	145.1	155.9	207.5	234.7	159.2	142.6*	136.7
20	152.0	133.9	167.0	171.3	217.0	144.2	155.6*	207.1	196.5	144.7	146.9	146.2*
21	153.9	142.2	163.3	165.2	212.4	145.2	165.4*	210.7	173.7*	138.6	145.4	161.4
22	152.7	145.9	152.9	163.7	213.7	156.9*	158.8	197.2*	149.5*	138.8	146.2	168.2
23	151.9	153.0	148.0	173.1	202.4	175.2	155.7*	187.3	128.5	141.2	152.6*	177.3*
24	150.4	156.1*	149.1	185.9*	189.0	181.0	144.8*	168.2	117.8	142.9	165.4*	190.9
25	159.1	162.1	169.3*	184.1	189.9	182.6*	145.7	159.1*	108.2	158.5	170.3	196.8*
26	178.3*	166.2	182.7*	204.0	192.8*	178.3	158.0	142.3	102.1	166.4	187.3	193.5
27	190.3	176.8	197.2	222.1	195.4*	167.3	171.5*	127.6	97.8	180.4	191.4	187.7*
28	206.4*	183.0	234.7	224.0	200.6	161.0*	171.3*	123.1	96.4	181.4	196.9	181.4
29	226.5*	183.6	267.0		198.0	155.6	170.9*	111.7	97.5	183.4	204.6	170.9*
30	231.6	185.7	284.5		194.5*	149.8*	142.8	108.5	112.4	174.5	202.4	166.7
31		182.8	289.1		184.1		136.7		114.4	175.0*		165.1
MEAN	203.3	201.4	173.4	208.9	208.3	162.9	147.9	177.4	164.8	172.1	167.1	160.9

* adjusted for burst
A = interpolated data point

DAILY SOLAR INDICES

OCTOBER 1982

DAY OF MONTH	YEAR DAY	BARTELS 27-DAY CYCLE NUMBER	PROVISIONAL SUNSPOT NUMBERS		OBSERVED FLUX	SOLAR FLUX ADJUSTED TO 1 A.U.								
			R_I	$R_{A'}$	OTTAWA 2800	AFGL 15400	AFGL 8800	AFGL 4995	OTTAWA 2800	AFGL 2695	AFGL 1415	AFGL 606	AFGL 410	AFGL 245
1	274	24	132	126	204.8				205.2					
2	275	25	164	149	209.2*	593	341	238	209.4*	225	190	140	66	68
3	276	26	143	134	196.8A	584	325	219	197.0A	187	170	122	47	21
4	277	27	120	115	182.3*	598	312	202	182.3*	165	164	107	44	15
5	278	1	109	97	163.9	585	304	186	163.9	160	151	110	42	18
6	279	2	55	56	152.1	590	282	176	151.9	143	135	99	38	15
7	280	3	54	47	140.3	573	273	163	140.2	133	132	102	40	14
8	281	4	55	55	137.2	542	259	162	136.9	134	128	88	36	16
9	282	5	54	61	137.8	549	251	155	137.4	130	127	83	34	17
10	283	6	88	82	135.2	560	268	157	134.8	130	135	95	39	16
11	284	7	87	79	137.9	589	269	160	137.3	126	124	96	37	17
12	285	8	92	89	136.9	576	262	163	136.4	129	127	94	41	15
13	286	9	98	95	144.6	574	283	164	143.9	138	132	98	37	14
14	287	10	88	82	141.1	575	293	172	140.4	141	129	97	37	14
15	288	11	71	71	134.9	581	287	163	134.1	129	126	92	37	11
16	289	12	65	58	130.7	578	279	158	129.8	128	122	95	35	9
17	290	13	54	49	131.0	591	278	157	130.1	140	125	93	37	13
18	291	14	39	39	133.9	586	283	166	132.8	144	125	98	47	20
19	292	15	56	53	137.8	589	285	169	136.7	137	121	91	40	19
20	293	16	70	74	147.5*	590	304	183	146.2*	145	125	105	44	22
21	294	17	91	92	162.9				161.4					
22	295	18	100	103	169.9	599	332	199	168.2	157	147	100	37	15
23	296	19	128	125	179.1*	613	319	206	177.3*	189	156	102	40	17
24	297	20	145	130	193.0	617	320	213	190.9	192	168	110	49	48
25	298	21	134	130	199.2*	618	354	217	196.8*	184	164	112	41	14
26	299	22	135	130	195.9	600	315	209	193.5	182	171	117	44	24
27	300	23	131	118	190.2*	615	336	222	187.7*	199	197	120	42	17
28	301	24	103	98	133.8	605	310	197	181.4	194	170	127	53	18
29	302	25	94	100	173.3*	598	310	197	170.9*	176	166	124	48	24
30	303	26	96	87	169.1	598	303	187	166.7	174	159	112	41	29
31	304	27	73	69	167.6	575	294	183	165.1	200	150	102	38	16
MEAN			94.3	90.1	161.9	588	298	184	160.9	159	146	105	41	20

*Adjusted for burst.

Data gaps in AFGL Sagamore Hill data are due to equipment problems.

Errata to SGD, 456 Part I, page 9, August issue: mean R sub I should be 102.6 and not 026;
mean R sub A prime should be 105.1 and not 051.

OBSERVED AND PREDICTED SOLAR ACTIVITY INDICES

	SUNSPOT NUMBERS						2800 MHz FLUX Adjusted to 1 AU	
	Rz or R_I		Ra		Rs		Sa	
Date	Monthly Mean	Smoothed	Monthly Mean	Smoothed	Monthly Mean	Smoothed	Monthly Mean	Smoothed
Nov 79	183.3	162	176.5	149	182.9	149	226.8	196
Dec	176.3	164	157.6	152	151.0	152	197.2	199
Jan 80	159.6	164	145.3	153	153.6	154	199.6	200
Feb	155.0	163	133.9	154	148.7	155	195.1	200
Mar	126.2	161	107.9	153	117.8	153	166.5	200
Apr	164.1	159	138.5	151	164.0	152	209.3	198
May	179.7	156	172.3	149	185.4	151	229.1	197
Jun	157.3	155	153.6	149	153.2	151	199.3	198
Jul	136.3	153	136.0	144	144.1	151	190.8	197
Aug	135.4	150	133.0	144	121.9	150	170.3	196
Sep	155.0	150	150.0	146	138.8	152	185.9	198
Oct	164.7	150	160.8	149	157.1	154	202.9	200
Nov	147.9	148	149.9	149	168.5	153	213.4	199
Dec	174.4	143	167.5	145	174.3	150	218.8	196
Jan 81	114.0	140	115.4	144	120.5	149	169.0	195
Feb	141.3	142	143.7	146	153.5	152	199.5	198
Mar	135.5	143	149.2	149	157.5	156	203.2	202
Apr	156.4	143	169.2	149	180.7	158	224.7	204
May	127.5	143	141.3	149	152.8	159	198.9	204
Jun	90.9	142	99.0	147	112.9	158	161.9	203
Jul	143.8	140	154.3	146	152.1	157	198.2	203
Aug	158.7	141	170.4	147	182.1	158	226.0	203
Sep	167.3	143	174.5	148	177.7	158	221.9	204
Oct	162.4	142*	157.0	146	178.6	156	222.8	202
Nov	137.5	139*	138.8	142	157.6	151	203.3	197
Dec	150.1	138*	145.0	140	155.5	149	201.4	195
Jan 82	111.2	137*	110.4	139	124.2	148	173.4	195
Feb	163.6	133*	161.0	134	163.6	144	208.9	191
Mar	153.8	129*	155.5	130	163.0	139	208.3	186
Apr	122.5†	124*	121.9	127	113.9	134	162.9	182
May	81.4†	120(± 4)*	82.6	123	97.7	130	147.9	---
Jun	110.4†	116(± 8)*	113.5	119	129.6	126	177.4	---
Jul	102.6†	111(± 9)*	113.3	113	116.0	120	164.8	---
Aug	105.9†	105(± 9)*	110.5	107	123.9	113	172.1	---
Sep	119.2†	100(± 9)*	117.8	102	118.5	107	167.1	---
Oct	94.3†	94(± 9)*	---	95	111.8	100	160.9	---
Nov	---	89(± 9)*	---	91	---	95	---	---
Dec	---	86(±10)*	---	87	---	91	---	---
Jan 83	---	81(±10)*	---	83	---	86	---	---
Feb	---	79(±11)*	---	80	---	83	---	---
Mar	---	77(±12)*	---	79	---	82	---	---
Apr	---	75(±13)*	---	77	---	80	---	---

*An asterisk denotes either a value of the observed 12-month running mean or a predicted 12-month average that is based on preliminary observations of the international relative sunspot number (R_I). Parentheses enclose the 90% confidence limits. Shaded boxes enclose the most recent smoothed values; boxes not shaded enclose predicted values. Ra is the new symbol for R_A'. All tabulated entries of Ra are final values.

†R_I replaces Rz as of January 1981.

SMOOTHED OBSERVED AND PREDICTED SUNSPOT NUMBERS FOR CYCLE 21

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1976	15	13	12	13	13	12	13	14	14	13	14	15
1977	17	18	20	22	24	26	29	33	39	46	52	57
1978	61	65	70	77	83	89	97	104	108	111	113	118
1979	124	131	137	141	147	153	155	155	156	158	162	165*
1980	164	163	161	159	156	155	153	150	150	150	148	143
1981	140	142	143	143	143	142	140	141	143	142	139	138
1982	137	133	129	124	120	116	111	105	100	94	89	86
					(4)	(8)	(9)	(9)	(9)	(9)	(9)	(10)
1983	81	79	77	75	73	70	69	68	67	67	67	66
	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(18)	(20)	(21)	(21)	(22)
1984	65	62	58	54	52	51	50	48	46	44	42	40
	(23)	(23)	(24)	(25)	(27)	(28)	(28)	(29)	(29)	(27)	(27)	(26)
1985	39	38	37	37	35	33	32	31	30	30	29	28
	(26)	(25)	(25)	(24)	(24)	(24)	(22)	(21)	(21)	(22)	(23)	(23)
1986	28	27	26	24	23	21	19	17	17	16	16	16
	(23)	(23)	(23)	(22)	(21)	(20)	(20)	(19)	(18)	(16)	(15)	(13)
1987	15	15	16	16	17	19	20					
	(12)	(12)	(12)	(12)	(14)	(14)	(15)					

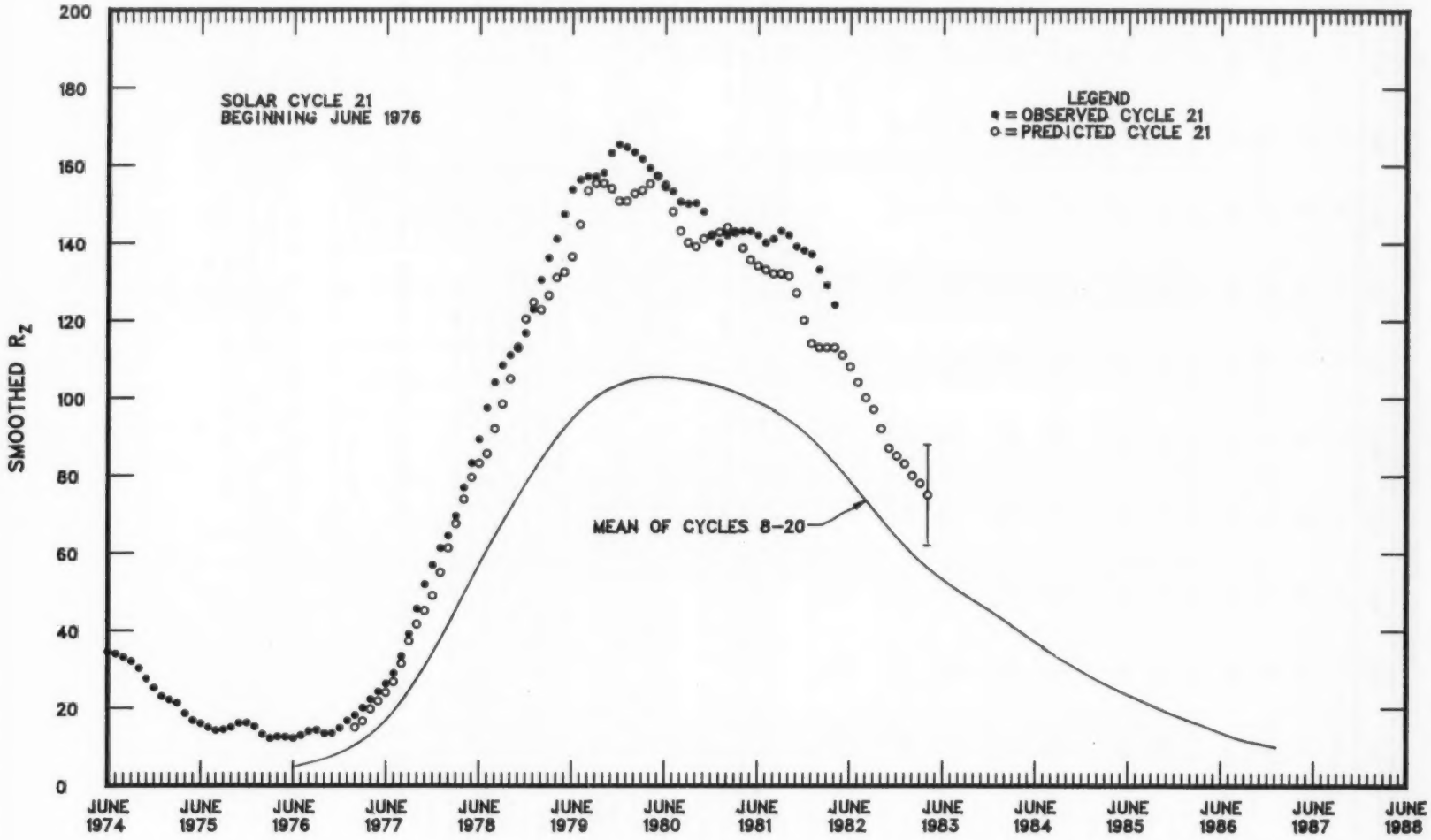
For the current solar cycle, this table gives observed smoothed sunspot numbers up to the one calculated from the most recently measured monthly mean. These smoothed observed values are based on final monthly mean Zurich numbers through 1980, on final International numbers through March 1982, and on provisional monthly mean International numbers thereafter. Some table entries after the June 1976 number will change slightly, when we incorporate final data for 1982.

The entries with numbers in parentheses below them denote predictions by the McNish-Lincoln method. (See page 10 in the February 1982 edition of the Solar-Geophysical Data supplement.) By adding to and subtracting from each prediction the number in parentheses, one generates the 90% confidence interval. Consider, for example, the April 1983 prediction tabulated above. There exists a 90% chance that in April 1983 the actual smoothed sunspot number will fall somewhere between 62 and 88.

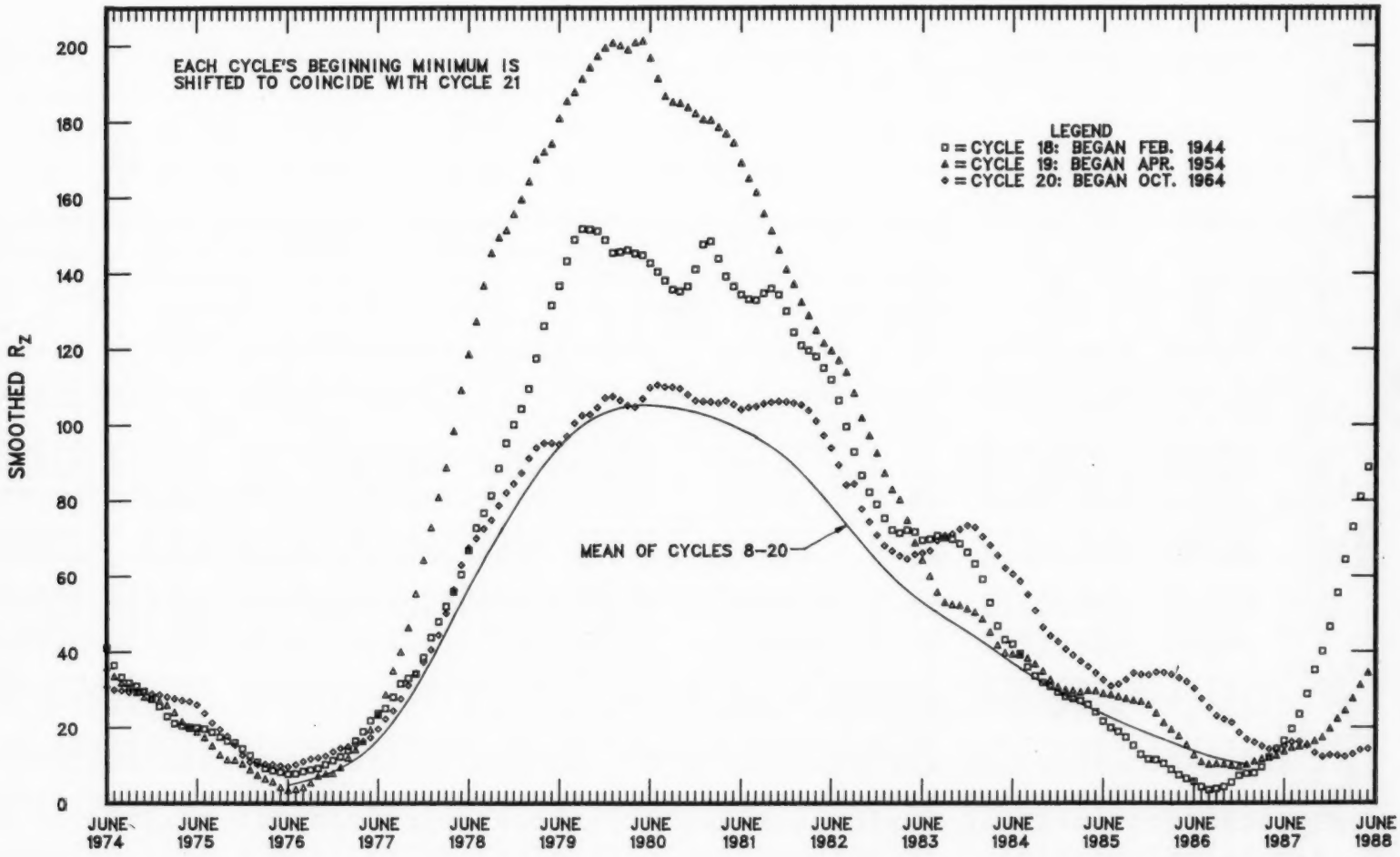
The McNish-Lincoln prediction method generates meaningful estimates of smoothed sunspot numbers for no more than 12 months ahead. Beyond a year the predictions regress rapidly toward the mean of all 13 cycles of data used in the computation. Furthermore, the method is very sensitive to the date defined as the beginning of the current sunspot cycle, that is, to the date of the most recent sunspot minimum. In Solar-Geophysical Data, Issues 390-401, we based the current cycle predictions on March 1976 as the end of cycle 20 and the onset of the new cycle 21. Later studies, including one published by M. Waldmeier, showed that June 1976 was more appropriately the minimum epoch. We therefore generated this table using the June 1976 date.

*MAXIMUM OF SUNSPOT CYCLE 21. The maximum smoothed sunspot number occurred in December 1979.

OBSERVED AND ONE-YEAR-AHEAD PREDICTED SMOOTHED SUNSPOT NUMBERS



SUPERPOSITION OF CYCLES 18, 19, AND 20



H - ALPHA S O L A R F L A R E S

OCTOBER 1982

Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Imp See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10^{-6} Disk)	Area Measurement Corr (Sq Deg)	Remarks
YUNN	01	0029	0040U	0045D	S03	E02		10	1.2	16D	SN	C 3.3		P	0040	79	.8	F
GOES	01	0031	0041	0047						16		C 3.3						
LEAR	01	0352	0357	0411	S11	W30	3919	09	28.9	19	SN	C 1.6	3	C		54		
LEAR	01	0626	0628	0638	S11	W27	3919	09	29.2	12	SN		3	C		46		F
LEAR	01	0747	0753	0809	N16	W10	3922	09	30.6	22	SN	C 2.2	3	C		78		F
LEAR	01	0819	0822	0834	N16	W11	3922	09	30.5	15	SF	C 1.8	3	C		31		F
LEAR	01	0849	0853	0903	S11	W33	3919	09	28.9	14	SN		3	C		20		F
GOES	01	1226	1228	1232						6		C 1.2						
GOES	01	1437	1440	1442						5		C 2.0						
HOLL	01	1511E	1520U	1541	N13	W19	3922	09	30.2	30D	SF		3	C		47		
HOLL	01	1612	1621	1656	N14	W31	3917	09	29.3	44	SF		3	C		48		
HOLL	01	1732	1756	1824	N14	W32	3917	09	29.3	52	SN	C 1.5	3	C		64		F
HOLL	01	1955	1956	2032	S10	W39	3919	09	28.9	37	SN	C 2.0	3	C		57		
HOLL	01	2012	2012	2027	S18	W15	3921	09	30.7	15	SF	C 1.7	3	C		22		
HOLL	01	2100	2104	2108	S10	W40	3919	09	28.9	8	SN		3	C		45		
HOLL	01	2124	2130	2213	N14	W23	3922	09	30.2	49	SN	C 1.4	3	C		95		F
HOLL	01	2155	2211	2233	S09	W44	3919	09	28.6	38	SN		3	C		35		F
GOES	01	2359	0002	0008						9		C 2.2						
HOLL	02	0002	0002	0018D	S10	W41	3919	09	28.9	16D	SN	C 2.0	1	C		33		
LEAR	02	0039	0048	0105	S11	W41	3919	09	28.9	26	SN	C 1.9	3	C		58		F
GOES	02	0148	0151	0153						5		C 2.3						
LEAR	02	0202	0206	0208	N16	E05	3931	10	2.5	6	SF		3	C		20		
GOES	02	0250	0302	0304						14		C 1.3						
YUNN	02	0316E	0317	0327	S10	W43		09	28.9	11D	SN			P		16	.2	
YUNN	02	0320	0325	0327D	S23	W15		10	1.0	7D	SN			P		79	1.0	E
LEAR	02	0321	0325	0339	S21	W14	3921	10	1.1	18	SF	C 2.1	3	C		49		F
LEAR	02	0516	0519	0531	N13	W27	3922	09	30.2	15	SF		3	C		20		
LEAR	02	0808	0808	0829	N15	E01	3931	10	2.4	21	SF		3	C		22		K
LEAR	02	0808	0821	0829	N15	E01	3931	10	2.4	21	SF		3	C		33		K
LEAR	02	0857	0859	0905	N15	E00	3931	10	2.4	8	SF		3	C		31		
GOES	02	0951	1005	1010						19		C 1.2						
GOES	02	1150	1155	1201						11		C 2.0						
GOES	02	1356	1401	1405			3919			9		C 3.7						
HOLL	02	1406E	1407U	1417	S09	W53	3919	09	28.6	11D	1N		2	C		140		
HOLL	02	1533	1535	1625	N13	W23	3930	09	30.9	52	SN	C 2.5	3	C		158		F
RAMY	02	1533	1536	1551	N12	W27	3922	09	30.6	18	SB		3	C		75		
RAMY	02	1548	1613	1634D	S10	W52	3919	09	28.7	46D	SN		3	C		71		K
RAMY	02	1548	1633	1634D	S10	W52	3919	09	28.7	46D	1B		3	C		191		FEK
HOLL	02	1559	1600	1620	S18	W18		10	1.3	21	SN		3	C		28		
RAMY	02	1559	1601	1606	S18	W18	3921	10	1.3	7	SN		3	C		20		
HOLL	02	1621	1622	1633	N15	W26	3922	09	30.7	12	SF		3	C		28		
HOLL	02	1630	1633	1647	S08	W52	3919	09	28.8	17	SB	C 4.1	3	C		115		FE
HOLL	02	1635	1637	1708	N14	W27	3922	09	30.6	33	SF		3	C		39		F
HOLL	02	1635	1638	1648	N12	W23	3930	10	1.0	13	SF		3	C		25		
HOLL	02	1708	1709	1715	N11	W21	3930	10	1.1	7	SF		3	C		23		
PALE	02	1716	1719	1932	N15	W26	3922	09	30.7	136	SN		3	C		45		F
HOLL	02	1719	1720	1725	N14	W31	3922	09	30.4	6	SN		3	C		28		
PALE	02	1815	1819	1830	S01	W22	3923	10	1.1	15	1B		3	C		216		FE
HOLL	02	1817	1819	1843	S01	W22	3923	10	1.1	26	SB	C 2.6	3	C		184		FE
PALE	02	1924	1926	1933	S10	W50	3919	09	29.0	9	SN		3	C		48		
HOLL	02	1925	1926	1932	S10	W52	3919	09	28.9	7	SB		3	C		39		
HOLL	02	2216	2219	2302	N16	W29	3922	09	30.7	46	SB		4	C		68		E
HOLL	02	2217	2227	2252	N12	W25	3930	10	1.0	35	SN		4	C		46		
HOLL	02	2239	2239	2326	S10	W55	3919	09	28.8	47	SN		4	C		16		K
HOLL	02	2239	2314	2326	S10	W55	3919	09	28.8	47	SN		4	C		18		K
LEAR	02	2333	2333	2343	N11	W40	3922	09	30.0	10	SF	C 2.4	2	C		20		F
LEAR	03	0034	0056U	0110	N17	W35	3922	09	30.4	36	SF		2	C		22		F
LEAR	03	0212	0215	0235	N12	W40	3922	09	30.1	23	SF	C 2.1	2	C		89		F
LEAR	03	0215	0221U	0224	N14	W29	3930	09	30.9	9	SF		2	C		26		F
LEAR	03	0402	0404	0419	S09	W59	3919	09	28.7	17	SN		3	C		94		F
YUNN	03	0404E	0404U	0420	S18	W59		09	28.7	16D	SN			P	0404	47	1.0	D
PEKG	03	0405	0406	0414	S07	W59		09	28.7	9	SF			C	0406	42	.9	D
GOES	03	0616	0624	0627						11		C 1.3						
RAMY	03	1210	1302	1318	S10	W61	3919	09	28.9	68	SN		3	C		102		
RAMY	03	1345	1345	1401	N14	W39	3922	09	30.6	16	SF		3	C		23		K
RAMY	03	1345	1357	1401	N14	W39	3922	09	30.6	16	SF		3	C		23		K
RAMY	03	1649	1724	1754	N14	W45	3922	09	30.3	65	SF		3	C		35		
HOLL	03	1653	1657	1659D	N16	W18	3931	10	2.3	6D	SB	C 3.0	3	C		186		
RAMY	03	1654	1655	1722	N15	W18	3931	10	2.3	28	1N		3	C		209		

H - ALPHA SOLAR FLARES

OCTOBER 1982

Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Imp See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10^{-6} Disk)	Area Measurement Corr (Sq Deg)	Remarks
HOLL	03	1841	1850	1913	S12	W66	3919	09	28.8	32	SB		3	C		49		
PALE	03	1842	1849	1911	S11	W68	3919	09	28.7	29	SB		2	C		40		
HOLL	03	1853	1929	1941	S17	W37	3921	10	1.0	48	SF		3	C		25		
HOLL	03	2012	2014	2034	S18	W40	3921	09	30.8	22	SN	C 2.4	3	C		54		
PALE	03	2012	2015	2032D	S19	W39	3921	09	30.9	20D	SF		2	C		42		
PALE	03	2134	2135	2147D	N12	W51	3922	09	30.1	13D	SF		2	C		32		F
GOES	04	0052	0056	0107						15		C 1.3						
GOES	04	0210	0214	0223						13		C 1.9						
LEAR	04	0234	0239U	0246	N17	W49	3922	09	30.4	12	SN		2	C		48		F
GOES	04	0359	0402	0404						5		C 2.1						
GOES	04	0533	0536	0538						5		C 2.5						
LEAR	04	0751	0752	0758	N16	W51	3922	09	30.5	7	SB	C 1.9	3	C		107		EH
LEAR	04	0815	0816	0820	S11	W74	3919	09	28.8	5	SF	C 1.7	3	C				
GOES	04	1020	1023	1036						16		C 1.9						
GOES	04	1343	1347	1354						11		C 2.8						
GOES	04	1503	1503	1513						10		C 1.9						
GOES	04	1647	1655	1704						17		C 1.9						
PALE	04	1737E	1740U	1825D	N13	W60	3922	09	30.2	48D	SN		1	C		100		F
HOLL	04	1738	1757	1838	N16	W58	3922	09	30.3	60	SN	C 6.0	3	C		135		F
HOLL	04	1931	1932	1942	N16	W53	3922	09	30.8	11	SN		3	C		46		F
HOLL	04	1948	1951	1959	S09	W72	3919	09	29.4	11	SN		3	C		25		
GOES	04	2142	2150	2155						13		C 3.3						
PALE	04	2259	2259	2309	N14	W58	3922	09	30.6	10	SN		3	C		25		
PALE	04	2331	2333	2353	N10	W53	3930	10	1.0	22	SN	C 2.8	3	C		70		
PALE	04	2356	0001	0021	N10	W56	3930	09	30.8	25	SF		3	C		29		
PALE	05	0042	0058	0102	N10	W55	3930	09	30.9	20	SN		3	C		16		
LEAR	05	0043	0058	0102	N11	W55	3930	09	30.9	19	SN		3	C		26		
PALE	05	0125	0130	0135	N10	W56	3930	09	30.8	10	SF		3	C		20		
LEAR	05	0143	0157	0223	N12	W49	3930	10	1.4	40	SN	C 3.4	3	C		54		F
PALE	05	0144	0158	0233	N10	W56	3930	09	30.9	49	SN		3	C		47		F
LEAR	05	0346	0349	0406	N12	W61	3922	09	30.6	20	SF	C 2.8	3	C		34		
LEAR	05	0416	0422	0442	N13	W64	3922	09	30.3	26	SF		3	C		43		
LEAR	05	0525	0526	0528	N19	W74	3917	09	29.6	3	SF		3	C				
GOES	05	0608	0612	0614						6		C 3.2						
BUCA	05	0715		0740	N12	W62		09	30.6	25	SF			C	0719	43	.9	D
LEAR	05	0805	0808	0812	N12	W59	3930	09	30.9	7	SF		3	C		35		
LEAR	05	0817	0818	0838	N12	W60	3930	09	30.8	21	SF		3	C		41		
GOES	05	0910	1033	1053						103		C 4.6						
GOES	05	1120	1122	1127						7		C 5.1						
GOES	05	1551	1559	1605						14		C 3.2						
HOLL	05	1601	1601	1621	N13	W65	3930	09	30.8	20	SF		3	C		32		
PALE	05	1947	1948	1953	N11	W67	3930	09	30.8	6	SF		3	C		23		
HOLL	05	1947	1948	1955	N13	W66	3930	09	30.8	8	SN		3	C		25		
GOES	05	1958	2006	2023			3930			25		C 2.1						
GOES	05	2142	2146	2148						6		C 3.8						
GOES	06	0012	0016	0018						6		C 2.1						
GOES	06	0120	0123	0125						5		C 2.0						
LEAR	06	0201	0202	0212	N20	W69	3922	09	30.8	11	SN		3	C		29		
PALE	06	0202	0204	0215	N11	W68	3930	10	1.0	13	SF		3	C		23		
LEAR	06	0217	0217	0224	N13	W77	3922	09	30.3	7	SF		3	C				
LEAR	06	0226	0229	0238	N12	W68	3930	10	1.0	12	SF		3	C		32		
GOES	06	0343	0354	0403						20		C 2.1						
GOES	06	0500	0506	0518						18		C 1.9						
LEAR	06	0534		0605	N18	W90	3917	09	29.4	31	SB	C 3.8	3	C				
LEAR	06	0542	0548	0559	S18	W70	3921	09	30.9	17	SN		3	C				
PEKG	06	0544	0546	0554	S17	W71		09	30.8	10	SF			C	0546	29		E
BUCA	06	0703	0708	0714	N16	W77		09	30.4	11	1N			C	0708	107		E
LEAR	06	0704	0709	0722	N12	W78	3922	09	30.4	18	1N		3	C		139		H
GOES	06	0736	0739	0741						5		C 1.9						
LEAR	06	0827	0830	0842	N15	W82	3922	09	30.1	15	SF		3	C				
GOES	06	1643	1646	1652						9		C 2.2						
GOES	06	1927	1931	1934						7		C 1.5						
GOES	06	2016	2020	2030			3938			14		C 1.2						
HOLL	06	2050	2054	2119	N21	E50		10	10.7	29	SN		3	C		41		F
HOLL	06	2116	2117	2134	S07	E22	3932	10	8.5	18	SF	C 1.7	3	C		21		
GOES	06	2256	2306	2312			3922			16		M 2.2						
HOLL	06	2303	2305U	2312D	N14	W79	3930	10	1.0	9D	SN		3	C				F
LEAR	06	2322	2323	2338	N11	W76	3930	10	1.3	16	SF		3	C				

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Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Imp Sec	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10^{-6} Disk)	Area Measurement Corr (Sq Deg)	Remarks
HOLL	06	2322	2323	2353	N12	W77	3930	10	1.2	31	SN	C 3.2	3	C				F
GOES	07	0111	0115	0121						10		C 1.5						
LEAR	07	0202	0202	0206	N14	W85	3922	09	30.7	4	SN	C 2.2	3	C				
PEKG	07	0202	0203	0207	N15	W89		09	30.3	5	SF			P	0203	17		D
LEAR	07	0224	0224	0235	N07	W55	3936	10	3.0	11	SF	C 1.2	3	C		32		
PEKG	07	0228	0230	0235	N08	W57		10	2.8	7	SN			P	0230	38	.7	D
GOES	07	0247	0253	0257			3930			10		C 8.6						
GOES	07	0351	0355	0403			3938			12		C 2.3						
PEKG	07	0355	0357	0407	N22	E46		10	10.7	12	SF			P	0357	25	.4	E
LEAR	07	0357	0359	0405	N22	E47		10	10.8	8	SN		3	C		54		
GOES	07	0515	0519	0522						7		C 1.2						
GOES	07	0735	0813	0831						56		C 1.1						
ISTA	07	0822		0837	N14	W90		09	30.5	15	SN							DB
GOES	07	1011	1014	1016						5		C 2.2						
GOES	07	1409	1411	1414						5		C 1.0						
HOLL	07	1534	1534	1544	S10	E14	3932	10	8.7	10	SF		3	C		30		F
HOLL	07	1614	1627	1629	N22	E41	3938	10	10.8	15	SF		3	C		27		
GOES	07	1751	1754	1756						5		C 1.0						
HOLL	07	1826	1829	1850	N22	E42	3938	10	11.0	24	SN		3	C		25		F
PALE	07	1827	1829	1842	N23	E41	3938	10	10.9	15	SF		3	C		28		F
HOLL	07	1841	1842	1851	N08	W64	3936	10	3.0	10	SF		3	C		15		
HOLL	07	1855	1859U	1902D	N21	E39	3938	10	10.8	7D	SF		3	C		21		F
PALE	07	1906	1908	1916	N24	E40	3938	10	10.9	10	SF		3	C		24		F
GOES	07	1928	1936	1941						13		C 1.0						
LEAR	08	0020	0024	0040	N08	W67	3936	10	3.0	20	SF		3	C		14		
PEKG	08	0305	0309	0326	N09	W69		10	2.9	21	SF			C	0326	29		E
LEAR	08	0305	0313	0335	N08	W68	3936	10	3.0	30	SF	C 1.2	3	C		19		
YUNN	08	0614	0616	0620D	S15	E09		10	8.9	6D	SN			P		47	.5	
LEAR	08	0615	0617	0629	S17	E10	3932	10	9.0	14	SN		3	C		83		FH
GOES	08	0847	0851	0856						9		C 1.0						
GOES	08	1606	1614	1620						14		C .9						
GOES	08	1707	1710	1712						5		C 1.0						
PALE	08	1933	1936	1938	N23	E28	3938	10	11.0	5	SF		3	C		29		
LEAR	09	0056	0057	0103	N22	E25	3938	10	11.0	7	SF		3	C		25		
GOES	09	0334	0340	0347						13		C .7						
HOLL	09	1425	1427	1449	N21	E16	3938	10	10.8	24	SF		3	C		35		F
HOLL	09	1655	1657	1713	N23	E16	3938	10	10.9	18	SF		3	C		33		
GOES	09	1900	1905	1912						12		C .7						
GOES	09	2314	2316	2324			3938			10		C .8						
HOLL	09	2358	0002	0015D	S13	W22	3939	10	8.3	17D	SN	C .9	3	C		101		
LEAR	09	2359	0001	0016	S13	W22	3939	10	8.3	17	SN		3	C		68		F
PEKG	10	0000E	0001	0015	S13	W22		10	8.3	15D	SF			P	0001	59	.7	E
PEKG	10	0300	0307	0336	N22	E06		10	10.6	36	SF			P	0307	67	.7	E
PALE	10	0305	0309	0328	N22	E05	3938	10	10.5	23	SF		3	C		27		F
LEAR	10	0309	0318	0326	N22	E06	3938	10	10.6	17	SF		3	C		45		F
LEAR	10	0355	0404	0408	N08	E23	3944	10	11.9	13	SF	C 1.0	3	C		25		F
PEKG	10	0415	0430	0500	N22	E05		10	10.6	45	SF			P	0430	88	.9	E
GOES	10	0717	0812	0901						104		C .7						
GOES	10	1105	1116	1126						21		C 1.3						
HOLL	10	1720	1733	1751	N08	E15	3944	10	11.8	31	SN		3	C		42		
PALE	10	1726	1732	1745	N08	E15	3944	10	11.9	19	SF		3	C		25		
HOLL	10	1737	1740	1801	N22	W02	3938	10	10.6	24	SF	C 1.1	3	C		69		
PALE	10	1740	1741	1753	N21	W03	3938	10	10.5	13	SF		3	C		31		F
LEAR	11	0605	0607	0612	N23	W06	3938	10	10.8	7	SF		3	C		22		
KAND	11	1045		1115	N21	W09		10	10.8	30	SN			P				E
GOES	11	1055	1059	1103			3938			8		C 1.2						
GOES	11	1340	1346	1400						20		C .9						
HOLL	11	1450	1459	1518	N08	E02	3944	10	11.8	28	SF		3	C		36		F
HOLL	11	1644	1645	1649	N21	W13	3938	10	10.7	5	SF		3	C		21		F
PALE	11	1724	1726	1829	N24	W12	3938	10	10.8	65	SN	C 1.0	3	C		76		F
HOLL	11	1724	1726	1815	N22	W12	3938	10	10.8	51	SN		3	C		57		
PALE	11	1848	1849	1852	N20	W16	3938	10	10.6	4	SN	C 1.2	3	C		68		
HOLL	11	1848	1849	1851	N20	W16	3938	10	10.6	3	SN		3	C		56		
HOLL	11	1950	1953	2006	N22	W14	3938	10	10.7	16	SF		3	C		33		
HOLL	11	2041	2041	2054	N21	W14	3938	10	10.8	13	SF		3	C		32		
GOES	11	2131	2135	2139						8		C .7						

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Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Imp See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10^{-6} Disk)	Area Measurement Corr (Sq Deg)	Remarks
HOLL	11	2141	2149	2201	N22	W15	3938	10	10.7	20	SN		3	C		31		
GOES	11	2235	2240	2244						9		C 2.3						
PALE	11	2246E	2246U	2256D	N22	W15	3938	10	10.8	10D	SF		3	C		107		F
GOES	12	0239	0245	0253						14		C .7						
LEAR	12	0741	0744	0756	N14	W26	3940	10	10.4	15	SF		3	C		27		
GOES	12	1455	1458	1504						9		C .6						
HOLL	12	1503E	1505U	1529D	N22	W25	3938	10	10.7	26D	SF		3	C		34		F
HOLL	12	1507E	1510U	1527	N07	E26	3948	10	14.6	20D	SF		3	C		43		
PALE	12	1828	1828	1841	N07	E24	3948	10	14.6	13	SF		3	C		26		K
PALE	12	1828	1839	1841	N07	E24	3948	10	14.6	13	SF		3	C		26		K
HOLL	12	1854	1915	1940	N23	W28	3938	10	10.6	46	SN	C .7	3	C		143		
HOLL	12	1905	1906	1917	N07	E25	3948	10	14.7	12	SF		3	C		23		
PALE	12	1909	1914	1935	N21	W29	3938	10	10.6	26	SF		3	C		113		
HOLL	12	1940	1948	2007	N23	W29	3938	10	10.6	27	SF		3	C		65		
GOES	12	2037	2040	2042						5		C .7						
GOES	12	2248	2251	2253						5		C 1.2						
GOES	12	2348	2351	2353						5		C .9						
LEAR	13	0022	0027	0035	N22	W31	3938	10	10.6	13	SF		3	C		39		
LEAR	13	0044	0048	0054	N21	W32	3938	10	10.6	10	SF		3	C		36		
LEAR	13	0655	0656	0700	S06	E72	3950	10	18.7	5	SF		2	C				
LEAR	13	0722	0723	0752	N25	W34	3938	10	10.7	30	SF	C .6	3	C		46		
GOES	13	1140	1146	1147						7		C .9						
GOES	13	1400	1416	1421						21		C .9						
HOLL	13	1409E	1411U	1418	N14	E16	3948	10	14.8	9D	SF		3	C		38		U
HOLL	13	1449	1451	1457	N02	W04	3949	10	13.3	8	SN		3	C		28		
HOLL	13	1558	1559	1614	N08	E11	3948	10	14.5	16	SF		3	C		34		F
HOLL	13	1623	1624	1629	S10	E67	3950	10	18.7	6	SF		3	C		25		
HOLL	13	1727	1727	1736	N22	W41	3938	10	10.6	9	SF		3	C		27		F
GOES	13	1800	1803	1805						5		C .7						
LEAR	14	0011	0015	0018	S10	E64	3950	10	18.8	7	SF	C .6	3	C		40		
PALE	14	0011	0015	0017	S09	E65	3950	10	18.9	6	SF		3	C		58		
PALE	14	0019	0019	0032	S10	W22	3946	10	12.4	13	SF		3	C		23		
LEAR	14	0045	0046	0050	N23	W45	3938	10	10.6	5	SF		3	C		21		
LEAR	14	0151	0154	0200	S10	E63	3950	10	18.8	9	SB		3	C		99		
PALE	14	0151	0155	0201	S08	E64	3950	10	18.9	10	SB	C 3.3	3	C		102		
YUNN	14	0152	0154	0159	S10	E61		10	18.7	7	1B			C		126	2.9	
LEAR	14	0237	0237	0245	N23	W46	3938	10	10.6	8	SF		3	C		18		
PALE	14	0240	0242	0244	N26	W46	3938	10	10.5	4	SF		3	C		36		
PALE	14	0252	0253	0257	N22	W46	3938	10	10.6	5	SF		3	C		25		
LEAR	14	0914	0916	0924	N24	W51	3938	10	10.4	10	SF	C .6	3	C		26		
WEND	14	1050	1052	1056	S09	E58		10	18.8	6	SF			C	1052	31	.6	
GOES	14	1239	1250	1304						25		C 1.0						
HOLL	14	1342E	1342U	1356D	S09	E57	3950	10	18.9	14D	SF		3	C		47		F
PALE	14	1716	1718	1726	S09	W30	3946	10	12.5	10	SF		3	C		37		
HOLL	14	1733	1736	1836	N16	E20	3945	10	16.2	63	SN	C .7	3	C		105		
PALE	14	1734	1738	1842	N17	E19	3945	10	16.2	68	SN		3	C		82		UF
PALE	14	1824	1824	1947	N13	W01	3948	10	14.7	83	SF		3	C		21		K
PALE	14	1824	1836	1947	N13	W01	3948	10	14.7	83	SN		3	C		40		H K
GOES	14	1852	1901	1910						18		C 1.1						
PALE	14	1856	1857	1902	N03	W21	3949	10	13.2	6	SN		3	C		33		
HOLL	14	1856	1857	1925	N03	W21	3949	10	13.2	29	SN		4	C		45		
PALE	14	2007	2015	2033	S08	E52	3950	10	18.7	26	SN		3	C		57		F
HOLL	14	2007	2022	2032	S07	E54	3950	10	18.9	25	SN	C .8	3	C		53		F
HOLL	14	2109	2112	2131	N03	W22	3949	10	13.2	22	SN		3	C		47		
HOLL	14	2243	2245	2257	N03	W23	3949	10	13.2	14	SN		3	C		22		
PALE	15	0048	0058	0101	S11	W34	3946	10	12.5	13	SF		3	C		19		
PALE	15	0135	0147U	0211	S08	E48	3950	10	18.7	36	SF		3	C		51		F
LEAR	15	0145	0147	0204	S09	E49	3950	10	18.8	19	SF		3	C		25		
PEKG	15	0145E	0150	0206	S09	E48		10	18.7	21D	SN			C	0150	42	.7	D
PEKG	15	0205E	0205	0209	S15	E14		10	16.1	4D	SN			P	0205	55	.6	E
LEAR	15	0205	0205	0209	S15	E14	3943	10	16.1	4	SN	C .6	3	C		44		
PALE	15	0205	0205	0211	S15	E14	3943	10	16.1	6	SN		3	C		38		
YUNN	15	0426E	0430	0458	S10	W37		10	12.4	32D	SN			P		31	.4	
LEAR	15	0543	0552	0609	S09	E46	3950	10	18.7	26	SN	C 1.5	3	C		68		F
PEKG	15	0545E	0550	0607	S09	E46		10	18.7	22D	SN			C	0550	126	2.0	E
KAND	15	0720	0723	0731	S04	E46		10	18.7	11	SB			C				D
KAND	15	0932		0938	S04	E46		10	18.8	6	SN			C				D

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Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Imp See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10^{-6} Disk)	Area Measurement Corr (Sq Deg)	Remarks
KAND	15	1036	1040	1049	N03	W30		10	13.2	13	1B			C				
GOES	15	1144	1151	1154			3949			10		C 9.5						
HOLL	15	1401E	1402U	1420D	S08	W43	3946	10	12.4	19D	SN		3	C		25		
HOLL	15	1823	1827	1835	S05	E41	3950	10	18.8	12	SN		3	C		24		F
HOLL	15	2037	2038	2038D	S08	E42	3950	10	19.0	1D	SB	C 3.5	3	C		79		
PALE	15	2040E	2043	2100	S05	E40	3950	10	18.9	20D	SB		3	C		118		F
HOLL	15	2107	2111	2140	S06	E39	3950	10	18.8	33	SN		3	C		71		FH
LEAR	16	0349E	0350U	0403	S09	E37	3950	10	18.9	14D	SF		2	C		39		F
ISTA	16	0833		0848	S10	E33		10	18.8	15	SF							
LEAR	16	0833	0835	0852	S11	E39	3950	10	19.3	19	SB	C 2.0	2	C		79		FE
MONT	16	0833	0836	0855	S09	E33		10	18.8	22	SB			C	0836	180		H
MONT	16	0944	0948	1002	N01	W42		10	13.3	18	SN	C 4.8		C	0948	150		
GOES	16	1628	1632	1640			3950			12		C 2.2						
GOES	16	1838	1843	1845						7		C .4						
GOES	16	2059	2102	2107			3946			8		C 1.1						
GOES	16	2307	2325	2343						36		C .6						
LEAR	17	0208	0209	0214	S06	E26	3950	10	19.0	6	SF	C .5	3	C		36		
PALE	17	0208	0209	0212	S04	E26	3950	10	19.0	4	SN		3	C		34		
LEAR	17	0255	0256	0300	S04	E22	3950	10	18.8	5	SF		3	C		39		
PALE	17	0256	0257	0258	S04	E22	3950	10	18.8	2	SF		3	C		23		
LEAR	17	0738	0740	0753	S13	W22	3943	10	15.7	15	SF		3	C		28		
PALE	17	1813	1818	1820	N02	W60	3949	10	13.3	7	SF		3	C		14		
PALE	17	1841	1842	1847	N06	W46	3948	10	14.3	6	SF		3	C		17		
GOES	17	2355	0004	0015						20		C .9						
GOES	18	0232	0239	0245						13		C 1.0						
LEAR	18	0627	0627	0636	S07	E11	3950	10	19.1	9	SF		3	C		60		F
WEND	18	0930	0940	1007	S04	E10		10	19.1	37	SF			C	0940	56	.6	
GOES	18	1123	1127	1132						9		C .9						
GOES	18	1206	1223	1229						23		C 1.3						
GOES	18	1522	1545	1547						25		C 1.8						
GOES	18	1711	1712	1718						7		C 1.0						
HOLL	18	1832	1848	1926	S07	E04	3950	10	19.1	54	SN	C 1.1	3	C		156		F
PALE	18	1848E	1851U	1910	S07	E05	3950	10	19.2	22D	SF		3	C		67		F
HOLL	18	2017E	2021	2023	S07	E87	3955	10	25.4	6D	SF		3	C				
HOLL	18	2202	2203	2215D	S06	E01	3950	10	19.0	13D	SF		3	C		26		F
GOES	18	2244	2300	2306						22		C .9						
GOES	19	0445	0447	0451						6		C .8						
GOES	19	0518	0532	0613						55		C 2.4						
GOES	19	0721	0727	0732						11		C 1.1						
ISTA	19	0757E		0834	S14	E30		10	21.6	37D	1N							E
GOES	19	1131	1141	1147			3955			16		C 4.8						
HOLL	19	1403E	1403U	1413D	S08	W37	3950	10	16.8	10D	SF		2	C		35		
HOLL	19	1530E	1536U	1549	S07	W09	3950	10	19.0	19D	SN		3	C		85		F
GOES	19	1646	1649	1651						5		C 1.0						
GOES	19	1718	1721	1723						5		C 1.2						
PALE	19	1748	1805	1826	S07	E81	3955	10	25.8	38	SN		3	C				F
HOLL	19	1750	1752	1802	S10	E81	3955	10	25.8	12	SN	C 2.0	3	C				
HOLL	19	1804	1810	1823	S12	E74	3955	10	25.3	19	SN	C 2.7	3	C				
HOLL	19	1834	1835	1848	S08	W11	3950	10	18.9	14	SF		3	C		28		F
PALE	19	1835	1838	1842	S08	W09	3950	10	19.1	7	SF		3	C		71		F
PALE	19	1845	1846	1848	S08	W10	3950	10	19.0	3	SF		3	C		30		
GOES	19	1846	1851	1857			3950			11		C 1.4						
GOES	19	2021	2024	2027						6		C 1.4						
HOLL	19	2232	2236	2248	S16	E22	3957	10	21.6	16	SF		3	C		21		
GOES	19	2334	2347	2350						16		C .9						
LEAR	20	0327	0328	0333	S12	E65	3955	10	25.0	6	SF		3	C		27		
GOES	20	0742	0749	0800						18		C 1.3						
GOES	20	0935	0940	0949						14		C 1.0						
GOES	20	1219	1222	1225						6		C 1.3						
GOES	20	1308	1313	1320						12		C 2.3						
GOES	20	1543	1557	1604						21		C 1.1						
HOLL	20	1629	1636	1638	S09	E63	3955	10	25.4	9	SF		3	C		16		
HOLL	20	1812	1814	1820	S10	E62	3955	10	25.4	8	SF		3	C		23		
GOES	20	1927	1929	1935						8		C 1.2						
PALE	21	0026	0029	0047	N11	E06	3958	10	21.5	21	SF	C 2.9	3	C		101		U

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Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Obs See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10^{-6} Disk)	Area Measurement Corr (Sq Deg)	Remarks
LEAR	21	0031E	0031U	0037D	N11	E06	3958	10	21.5	6D	SF		3	C		94		F
GOES	21	0132	0136	0139						7		C 1.5						
GOES	21	0211	0217	0225						14		C 1.3						
GOES	21	0335	0337	0341						6		C 1.1						
GOES	21	0506	0509	0516			3960			10		C 1.9						
YUNN	21	0535E	0535U	0540D	N09	E03		10	21.5	5D	SN			P	0535	48	.5	E
KAND	21	0641E		0710	N10	E03		10	21.5	29D	1N			C				U
GOES	21	0644	0650	0702			3955			18		C 3.7						
KAND	21	0655		0710	S10	E49		10	25.0	15	SN			C				
ISTA	21	0719		0723	S14	E47		10	24.9	4	SN							D
ISTA	21	0728		0818	S13	E46		10	24.8	50	3B							KIF
LEAR	21	0735E	0736	0820D	S09	E44	3955	10	24.6	45D	1N	C 7.4	2	C		197		F
KAND	21	0735	0755	0821	S08	E40		10	24.3	46	1N			C				E
WEND	21	0751E		0833	S09	E41		10	24.4	42D	1N			C	0751	306	4.2	BF
KAND	21	0842		0855	S08	E40		10	24.4	13	SN			C				E
GOES	21	1056	1103	1109						13		C 2.9						
GOES	21	1134	1138	1141						7		C 2.5						
GOES	21	1303	1307	1311						8		C 2.3						
WEND	21	1332	1338	1342	S10	E39		10	24.5	10	SF			C	1338	25	.3	
WEND	21	1357	1359	1407	S09	W34		10	19.0	10	SN			C	1359	69	.9	
RAMY	21	1359E	1359U	1424	S09	W34	3950	10	19.0	25D	SN		3	C		124		
GOES	21	1600	1605	1609						9		C 2.5						
HOLL	21	1804	1805	1811	N08	E81	3960	10	27.8	7	SF		3	C				
HOLL	21	1850	1854	1900	N10	E91	3960	10	28.6	10	SF		3	C				
HOLL	21	2139	2155	2240	S11	E46	3955	10	25.4	61	SF	C 1.4	3	C		24		K
HOLL	21	2139	2157	2240	S11	E46	3955	10	25.4	61	SN		3	C		28		F K
GOES	21	2251	2253	2314			3961			23		C 8.2						
HOLL	21	2301E	2302U	2302D	S06	E89		10	28.6	1D	1B		3	C				
LEAR	22	0214	0226	0232	S06	E83		10	28.3	18	SF		3	C				
LEAR	22	0304	0304	0328	N12	E74	3960	10	27.7	24	SF		3	C				K
LEAR	22	0304	0317	0328	N12	E74	3960	10	27.7	24	SF	C 6.0	3	C				F K
GOES	22	0532	0535	0539						7		C 2.1						
GOES	22	0702	0707	0713						11		C 4.8						
BUCA	22	0730		0815	N11	W14		10	21.3	45	SF			C	0730	53	.6	D
BUCA	22	0825	0826	0835	S09	W44		10	19.0	10	SF			C	0826	86	1.2	
GOES	22	0910	0914	0918						8		C 1.9						
GOES	22	1214	1221	1232						18		C 1.1						
RAMY	22	1425E	1429U	1436	N14	E73	3960	10	28.1	11D	SF	C 2.7	3	C				
HOLL	22	1428	1428	1437	N13	E86	3960	10	29.1	9	SF		3	C				
HOLL	22	1618	1621	1629	N11	E68	3960	10	27.8	11	SF	C 1.6	3	C		25		
HOLL	22	1701E	2124	2131D	S21	E12	3960	10	23.6	270D	1B	C 2.8	3	C		165		FE
GOES	22	1713	1715	1720						7		C 5.5						
HOLL	22	1801	1810	1815	S08	E34	3955	10	25.3	14	SF		3	C		54		
HOLL	22	1940	2000	2008	N08	E63	3960	10	27.5	28	SN		3	C		34		
PALE	22	1950	1958	2006	N10	E63	3960	10	27.6	16	SF		3	C		30		
HOLL	22	2018	2020	2031	N09	E63	3960	10	27.6	13	SF		3	C		19		
HOLL	22	2121	2124	2140	N12	E70	3960	10	28.2	19	1B		3	C		165		FE
GOES	22	2357	0000	0002						5		C 2.0						
PALE	23	0009	0017	0034	S11	E29	3955	10	25.2	25	SN		3	C		82		F
LEAR	23	0011	0018	0035	S12	E28	3955	10	25.1	24	SN		3	C		81		F
YUNN	23	0214	0227	0230D	S12	E36		10	25.8	16D	SN			P		32	.4	
PALE	23	0216	0227	0247	S11	E28	3955	10	25.2	31	SN	C 3.0	3	C		83		F
LEAR	23	0218	0226	0238	S12	E28	3955	10	25.2	20	SN		3	C		74		F
LEAR	23	0251	0252	0301	S12	E24	3955	10	24.9	10	SF		3	C		22		F
GOES	23	0342	0345	0404						22		C 1.9						
LEAR	23	0414	0417	0438	S07	E08	3954	10	23.8	24	SF		3	C		31		F
LEAR	23	0437	0441	0445	S13	E27	3955	10	25.2	8	SN	C 1.9	3	C		23		
LEAR	23	0620	0620	0629	S06	E63	3961	10	28.0	9	SF	C 1.4	3	C		12		F
LEAR	23	0644	0645	0652	N11	E34	3959	10	25.8	8	SF		3	C		27		
LEAR	23	0706	0707	0715	S07	E26	3955	10	25.2	9	SF		3	C		29		
LEAR	23	0742	0745	0812	S08	E26	3955	10	25.3	30	SF		3	C		73		F
GOES	23	0931	0934	0943						12		C 1.0						
GOES	23	0945	0951	0955						10		C 1.2						
GOES	23	1110	1112	1123						13		C 1.0						
GOES	23	1143	1146	1152						9		C 2.1						
RAMY	23	1253	1259	1411	S11	E19	3955	10	25.0	78	SB	M 1.3	3	C		141		E
GOES	23	1321	1334	1415			3961			54		C 5.6						
RAMY	23	1343	1348	1401	S04	E68	3961	10	28.7	18	SN		3	C		77		
HOLL	23	1344E	1344U	1425	S12	E28	3955	10	25.7	41D	SN		2	C		75		F

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RAMY	23	1425	1428	1446	N16	E61	3960	10	28.2	21	SF		3	C		39		
HOLL	23	1541	1544	1554	N09	E52	3960	10	27.6	13	SF		3	C		17		
HOLL	23	1606	1608	1627	N10	E52	3960	10	27.6	21	SF		3	C		29		Z
HOLL	23	1649	1651	1722	N13	E18	3959	10	25.1	33	SN		3	C		62		
HOLL	23	1658	1658	1716	S11	E20	3955	10	25.2	18	SF		3	C		27		
HOLL	23	1754	1805	1807	N10	E52	3960	10	27.7	13	SF		3	C		19		Z
PALE	23	1808	1820	1828	N14	E17	3963	10	25.0	20	SF		3	C		37		
HOLL	23	1808	1820	1833	N13	E18	3963	10	25.1	25	SN		3	C		35		
PALE	23	1823	1825	1839	N11	E51	3960	10	27.6	16	SN		3	C		44		
HOLL	23	1823	1825	1845	N09	E51	3960	10	27.6	22	SB		3	C		62		ZE
PALE	23	1828	1829	1847	S11	E21	3955	10	25.4	19	SF	C 1.9	3	C		25		UF
HOLL	23	1834	1840	1851	S12	E20	3955	10	25.3	17	SF		3	C		50		F
PALE	23	1857	1905	1916	S13	E35	3964	10	26.4	19	SF		3	C		67		
HOLL	23	1857	1908	1916	S14	E35	3964	10	26.4	19	SF		3	C		58		
PALE	23	1904	1906	1918	N14	E16	3963	10	25.0	14	SF		3	C		34		
HOLL	23	1911	1957	2005	N13	E17	3963	10	25.1	54	SN		3	C		30		
HOLL	23	1922	1935	1938	S12	E21	3955	10	25.4	16	SF		3	C		21		
HOLL	23	1944	1958	2006	S12	E19	3955	10	25.3	22	SN		3	C		46		F
PALE	23	1946	1956	2010	S12	E19	3955	10	25.3	24	SN		3	C		33		F
PALE	23	1948	1956	2011	N14	E16	3963	10	25.0	23	SN		3	C		23		
HOLL	23	2052	2053	2059	S12	E13	3955	10	24.8	7	SB	C 1.7	3	C		41		E
HOLL	23	2105	2106	2110	N11	E53	3960	10	27.9	5	SF		3	C		21		
HOLL	23	2111	2111	2117	S08	E56	3961	10	28.1	6	SF		3	C		16		
HOLL	23	2208	2208	2216	S10	E21	3955	10	25.5	8	SF		3	C		24		
HOLL	23	2252	2304	2308	S07	E57	3961	10	28.2	16	SF		3	C		17		
HOLL	23	2331	2336	2338D	S07	E59	3961	10	28.4	7D	SF	C 2.0	3	C		38		F
PALE	23	2339	2341	2344D	S05	E59	3961	10	28.4	5D	SF		3	C		22		F
LEAR	24	0020	0021	0043	N13	E13	3963	10	25.0	23	SN	C 2.0	3	C		65		
PEKG	24	0020	0022	0036	N13	E13		10	25.0	16	SN			C	0022	168	1.8	E
LEAR	24	0158	0204	0217	S12	E10	3955	10	24.8	19	SN	C 2.2	3	C		136		F
LEAR	24	0203	0209	0220	N10	E46	3960	10	27.5	17	SF		3	C		29		ZF
PEKG	24	0204	0207	0224	N09	E47		10	27.6	20	SF			P	0207	55	.8	E
PEKG	24	0205E	0205	0211	S12	E09		10	24.8	6D	SN			P	0205	92	1.0	E
LEAR	24	0253	0254	0306	N15	E52		10	28.1	13	SF		3	C		30		F
GOES	24	0410	0412	0435			3960			25		C 2.2						
PEKG	24	0425	0426	0430	S13	E09		10	24.9	5	SN			P	0426	67	.7	E
LEAR	24	0431E	0431U	0437	S13	E09	3955	10	24.9	6D	SF		3	C		41		H
LEAR	24	0500	0502	0506	S06	E52	3961	10	28.1	6	SF		3	C		20		
GOES	24	0517	0520	0523						6		C 2.0						
GOES	24	0534	0535	0558			3960			24		C 5.1						
PEKG	24	0544	0546	0600	N09	E44		10	27.5	16	SN			P	0546	71	1.0	E
LEAR	24	0608	0610	0616	N12	W38	3958	10	21.4	8	SF		3	C		29		
LEAR	24	0612	0614	0623	N15	E50		10	28.0	11	SF		3	C		44		
LEAR	24	0635	0636	0642	S09	E17	3955	10	25.6	7	SF		3	C		46		
LEAR	24	0658	0705	0725	S12	E07	3955	10	24.8	27	SN	C 3.0	3	C		125		F
PEKG	24	0700	0705	0712	S13	E07		10	24.8	12	SN			P	0705	126	1.4	E
PEKG	24	0704	0705	0706	S18	E11		10	25.1	2	SF			P	0705	34	.4	E
KAND	24	0711E		0719	S11	E06		10	24.8	8D	SN			C				
LEAR	24	0715	0715	0732	N11	W39	3958	10	21.4	17	SF		3	C		22		
LEAR	24	0734	0743	0825	N12	E18	3959	10	25.7	51	SF		3	C		176		F
KAND	24	0738	0751	0807	N13	E17		10	25.6	29	SN			C				U
LEAR	24	0759	0808	0853D	N09	E42	3960	10	27.5	54D	SN		3	C		70		K
LEAR	24	0759	0827	0853D	N09	E42	3960	10	27.5	54D	1N	C 5.2	3	C		182		Z K
KAND	24	0808	0823	0833D	N13	E42		10	27.5	25D	1B			C				Z
BUCA	24	0816		0845	N09	E42		10	27.5	29	SN			P	0822	150	2.0	
ISTA	24	0818	0826	0839	N08	E43		10	27.6	21	1B							E
LEAR	24	0836	0837	0847	N12	E08	3963	10	25.0	11	SF		3	C		33		
GOES	24	1333	1414	1414						41		C 2.6						
HOLL	24	1406	1511	1601	N12	E41	3960	10	27.7	115	1B	M 2.2	3	C		238		ZE
HOLL	24	1455E	1522U	1526D	S08	E30	3961	10	26.9	31D	SF		3	C		35		F
HOLL	24	1457	1512	1603	N12	E41	3960	10	27.7	66	1B		4	C		450		ZE
HOLL	24	1537	1538	1605	N12	W43	3958	10	21.4	28	SF		3	C		24		
HOLL	24	1712	1713	1722	N13	E15	3959	10	25.8	10	SF		3	C		20		
GOES	24	1720	1723	1728			3961			8		C 3.1						
HOLL	24	1722	1723	1733	S06	E51	3961	10	28.5	11	SF		3	C		34		
RAMY	24	1724	1725	1728	S04	E52	3961	10	28.6	4	SF		3	C		36		
PALE	24	1730	1734	1750	S04	E50	3961	10	28.5	20	SF		3	C		19		
PALE	24	1736	1748	1831	N10	E37	3960	10	27.5	55	SN		3	C		155		F
HOLL	24	1746	1752	1832	N10	E38	3960	10	27.6	46	SB		3	C		46		FE
PALE	24	1916	1917	1923	S09	E08	3955	10	25.4	7	SF		3	C		34		F

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HOLL	24	2034	2035	2104	S09	E09	3955	10	25.5	30	SN	C 1.7	3	C		37		
HOLL	24	2050	2100	2119	N03	E66	3962	10	29.8	29	SF		3	C		20		F
PALE	24	2121	2127	2142	N12	E40	3960	10	27.9	21	SF		3	C		63		F
HOLL	24	2123	2128	2141	N10	E40	3960	10	27.9	18	SN		3	C		21		F
HOLL	24	2156	2156	2213	N14	E12	3959	10	25.8	17	SF		3	C		49		
PALE	24	2212	2213U	2222D	N09	E35	3960	10	27.6	10D	SN		3	C		114		F
HOLL	24	2213	2213	2218	N07	E35	3960	10	27.5	5	SN		3	C		68		
HOLL	24	2239	2239	2244	S09	E03	3955	10	25.2	5	SN		3	C		29		
HOLL	24	2313	2323	2333D	N13	E30	3960	10	27.2	20D	SN		3	C		51		U
PALE	24	2315	2323	2330	N14	E38	3960	10	27.8	15	SF	C 2.5	3	C		53		
LEAR	24	2327	2332	2350	S07	E03	3955	10	25.2	23	SF		3	C		89		
HOLL	24	2329	2332	2333D	S12	W00	3955	10	25.0	4D	SN		3	C		85		F
PALE	25	0016	0017	0020	N12	E34	3960	10	27.6	4	SF		3	C		32		
LEAR	25	0026	0027	0036	S12	W02	3955	10	24.9	10	SN	C 2.7	3	C		71		
PALE	25	0026	0029	0039	S12	W02	3955	10	24.9	13	SF		3	C		42		F
LEAR	25	0236	0236	0244	S12	W04	3955	10	24.8	8	SF	C 1.9	3	C		24		
GOES	25	0314	0317	0321						7		C 2.1						
PEKG	25	0325E	0337	0409	S09	E05		10	25.5	44D	SN			P	0337	88	.9	E
YUNN	25	0325	0337	0414	S10	E04		10	25.4	49	SB			C		127	1.4	
LEAR	25	0327	0335	0442	S10	E05	3955	10	25.5	75	SB	C 9.4	3	C		144		ZF
PEKG	25	0502E	0508	0512	N09	E31		10	27.5	10D	SN			P	0508	21	.2	D
LEAR	25	0502	0508	0517	N09	E30	3960	10	27.5	15	SN		3	C		63		
PEKG	25	0527	0535	0541	S11	W04		10	24.9	14	SF			P	0535	139	1.5	F
LEAR	25	0529	0531	0536	S12	W06	3955	10	24.8	7	SF		2	C		31		F
PEKG	25	0531	0535	0555	N09	E30		10	27.5	24	SF			C	0535	34	.4	E
PEKG	25	0700E	0705	0715D	S07	W03		10	25.1	15D	SN			P	0705	59	.6	E
LEAR	25	0705	0714	0728	S08	W04	3955	10	25.0	23	SN	C 3.3	3	C		137		F
KAND	25	0709	0718	0734	S07	W03		10	25.1	25	SN			C				
ISTA	25	0710		0720	S11	W05		10	24.9	10	1N							E
YUNN	25	0726E	0726U	0730	S07	W05		10	24.9	4D	SN			P	0726	48	.5	E
YUNN	25	0728	0729	0731D	S07	E37		10	28.1	3D	SN			P		16	.2	D
LEAR	25	0729	0731	0738	S07	E37	3961	10	28.1	9	SN		3	C		42		
KAND	25	0733		0742	S05	E38		10	28.2	9	SF			C				E
YUNN	25	0748	0753	0816	S05	E43		10	28.5	28	SN			C		32	.5	
LEAR	25	0749	0750	0804	S05	E43	3961	10	28.5	15	SN	C 1.9	3	C		66		F
KAND	25	0752	0755	0808	S03	E43		10	28.5	16	1B			C				
KAND	25	0826		0833	S09	W02		10	25.2	7	SF			C				D
KAND	25	0836		0846	S08	W04		10	25.1	10	SF			C				E
KAND	25	0845	0848	0855	N15	W05		10	25.0	10	SB			C				D
YUNN	25	0848E	0848U	0851D	N14	W05		10	25.0	3D	SN			P	0848	16	.2	D
YUNN	25	0912E	0912U	0915D	S09	W01		10	25.3	3D	SN			P	0912	48	.5	E
GOES	25	1003	1006	1008						5		C 2.2						
KAND	25	1104		1149	S13	W08		10	24.9	45	SB			C				E
KAND	25	1107		1149	S03	W03		10	25.2	42	SN			C				D
RAMY	25	1131	1134	1201	S12	W07	3955	10	25.0	30	SB	C 3.8	3	C		100		FE
RAMY	25	1214	1217	1243	N11	W07	3963	10	25.0	29	SN	C 2.5	3	C		71		
KAND	25	1239		1250	N12	W07		10	25.0	11	SN			C				E
RAMY	25	1242	1244	1328	N11	E28	3960	10	27.6	46	SN	C 2.6	3	C		58		F
RAMY	25	1419	1523	1811	S05	E34	3961	10	28.1	232	SN		3	C		65		
RAMY	25	1526	1607	1638	N13	E02	3959	10	25.8	72	SF		3	C		68		
RAMY	25	1528	1612	1626	N11	W10	3963	10	24.9	58	SF		3	C		53		
RAMY	25	1542	1557	1645	S07	W08	3955	10	25.1	63	1B		3	C		354		UF
HOLL	25	1543E	1709U	1724	S06	E31	3961	10	28.0	101D	SF		3	C		169		F
HOLL	25	1545E	1558U	1643	S10	W09	3955	10	25.0	58D	1B		3	C		349		FE
GOES	25	1547	1602	1606			3955			19		C 8.6						
HOLL	25	1637	1657	1700	N13	W01	3959	10	25.6	23	SF		3	C		21		F
RAMY	25	1701	1701	1729	S10	W08	3955	10	25.1	28	SF		3	C		22		K
HOLL	25	1701	1709	1749	N09	E24	3960	10	27.5	48	SF		3	C		40		
RAMY	25	1701	1719	1729	S10	W08	3955	10	25.1	28	SN		3	C		105		K
HOLL	25	1706	1709	1717	S13	W11	3955	10	24.9	11	SN		3	C		40		F
RAMY	25	1734	1735	1746	S12	W11	3955	10	24.9	12	SF	C 2.2	3	C		35		
PALE	25	1800	1818	1839	N13	E01	3959	10	25.8	39	SN	C 2.0	3	C		175		F
HOLL	25	1807	1821	1833	N13	E02	3959	10	25.9	26	1N		3	C		207		F
GOES	25	1812	1816	1819			3959			7		C 2.5						
HOLL	25	1817	1820	1829	N10	E22	3960	10	27.4	12	SF		3	C		24		F
HOLL	25	1819	1827	1828	N12	W10	3963	10	25.0	9	SF		3	C		21		
HOLL	25	1821	1821	1829	S06	E34	3961	10	28.3	8	SF		3	C		21		
HOLL	25	1825	1827	1829	S09	W09	3955	10	25.1	4	SF		3	C		21		F
PALE	25	1835	1846	1920	N12	E25	3960	10	27.7	45	SN		3	C		72		F
HOLL	25	1838	1851	1958	N10	E24	3960	10	27.6	80	SN	C 3.8	3	C		105		

H - ALPHA SOLAR FLARES

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Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Imp See	Obs Type	Time (UT)	Area Measurement Apparent (10^{-6} Disk)	Area Measurement Corr (Sq Deg)	Remarks
PALE	25	1848	1848	1902	S12	W13	3955	10	24.8	14	SF		3	C		55		F
HOLL	25	1848E	1850U	1901	S12	W13	3955	10	24.8	13D	SF		3	C		53		F
HOLL	25	1852	1903	1911	S07	E32	3961	10	28.2	19	SN		3	C		29		
HOLL	25	1907	1911	1931	S11	W13	3955	10	24.8	24	SN		3	C		139		F
PALE	25	1908	1910	1917	S10	W10	3955	10	25.0	9	SN		3	C		73		F
HOLL	25	1946	1947	1955	N14	E32	3965	10	28.2	9	SF		3	C		27		
HOLL	25	2017	2017	2042	S06	E32	3961	10	28.2	25	SF		3	C		27		F
HOLL	25	2019	2043	2141	N13	E31	3965	10	28.2	82	SF	C 3.5	3	C		33		
PALE	25	2045	2056	2132	N14	E31	3965	10	28.2	47	SF		3	C		94		
PALE	25	2101	2107	2112	S12	W04	3955	10	25.6	11	SF		3	C		23		
PALE	25	2248	0031	0105	N12	E23	3960	10	27.7	137	2B		3	C		504		K
PALE	25	2248	2304	0105	N12	E23	3960	10	27.7	137	2B	M 2.1	3	C		545		ZUK
PALE	25	2250	2255	2303	S12	W15	3955	10	24.8	13	SF		3	C		198		F
LEAR	25	2305E	2305U	0022	N11	E23	3960	10	27.7	77D	1B		3	C		403		ZU
PALE	25	2317	2320	2323	N16	E29	3965	10	28.2	6	SF		3	C		31		
LEAR	25	2332	2339	0015	N14	E29	3965	10	28.2	43	SN		3	C		49		F
PALE	25	2335	2345	0041	N14	E29	3965	10	28.2	66	SN		3	C		42		
PALE	26	0007	0007	0009	N15	W14	3963	10	24.9	2	SF		3	C		28		
YUNN	26	0015E	0024	0054	N11	E21		10	27.6	39D	SN			P		127	1.4	F
LEAR	26	0023	0026	0116	N09	E20	3960	10	27.5	53	1B	C 8.2	3	C		349		ZF
YUNN	26	0025	0028	0054	N10	E20		10	27.5	29	1N			C		223	2.5	F
PEKG	26	0025	0032	0052	S12	W16		10	24.8	27	SN			P	0032	84	.9	E
YUNN	26	0027	0030	0037	S12	W17		10	24.7	10	SN			C		127	1.4	
PALE	26	0030	0034	0040	S12	W16	3955	10	24.8	10	SF		3	C		98		
LEAR	26	0031	0033	0039	S12	W16	3955	10	24.8	8	SN		3	C		59		
LEAR	26	0047	0047	0053	S12	W10	3955	10	25.3	6	SN		3	C		47		
PALE	26	0134	0140	0153	S12	W16	3955	10	24.9	19	SN		3	C		74		
YUNN	26	0135	0140	0144	S12	W18		10	24.7	9	SN			C		143	1.6	
LEAR	26	0137	0139	0152	S12	W17	3955	10	24.8	15	SN		3	C		109		
LEAR	26	0315	0323	0333	S10	W14	3955	10	25.1	18	SF		3	C		47		
LEAR	26	0402	0402	0409	N11	E18	3960	10	27.5	7	SF		3	C		24		
LEAR	26	0519	0521	0539	N14	W04	3959	10	25.9	20	SF		3	C		49		
YUNN	26	0526E	0526U	0534	N13	W05		10	25.8	8D	SN			P	0526	48	.5	E
GOES	26	0701	0703	0708						7		C 1.5						
YUNN	26	0703E	0703U	0709	S09	E24		10	28.1	6D	SN			P	0703	32	.4	
YUNN	26	0703	0710	0725	N14	W06		10	25.8	22	SF			C		32	.3	
WEND	26	0818	0818	0821	S12	W23		10	24.6	3	SN			C	0818	31	.4	
YUNN	26	0920	0924	0933D	N12	E13		10	27.4	13D	SN			P		64	.7	E
GOES	26	0922	0933	0939						17		C 1.5						
LEAR	26	0924	0926	0943D	N10	E12	3960	10	27.3	19D	SF		3	C		41		F
LEAR	26	0936	0938	0943D	S12	W21	3955	10	24.8	7D	SF		3	C		85		
WEND	26	1004	1008	1012	S10	E22		10	28.1	8	SF			C	1008	62	.7	
GOES	26	1153	1158	1202						9		C 1.3						
RAMY	26	1405	1405	1431	S06	E21	3961	10	28.2	26	SF		3	C		22		K
RAMY	26	1405	1417	1431	S06	E21	3961	10	28.2	26	SN		3	C		35		K
RAMY	26	1423	1423	1446	S12	W23	3955	10	24.9	23	SN	C 1.5	3	C		30		
HOLL	26	1516	1527	1609	S10	W18	3955	10	25.3	53	SN		3	C		121		F
RAMY	26	1520	1527	1600	S12	W15	3955	10	25.5	40	SN		3	C		60		
RAMY	26	1556	1606	1612	S06	E20	3961	10	28.2	16	SF		3	C		30		
RAMY	26	1630	1631	1643	S06	E20	3961	10	28.2	13	SN	C 2.1	3	C		89		
HOLL	26	1631	1632	1636	S07	E18	3961	10	28.0	5	SN		3	C		67		
HOLL	26	1644	1647	1702	S11	W32	3954	10	24.3	18	SF		3	C		48		
HOLL	26	1711	1721	1733	S11	W16	3955	10	25.5	22	SF		3	C		79		
HOLL	26	1817	1825	1847D	N10	E02	3967	10	26.9	30D	SN		3	C		62		
HOLL	26	1820	1822	1845	S11	W16	3955	10	25.6	25	SF		3	C		116		
HOLL	26	1926E	1926U	2006	N10	E03	3967	10	27.0	40D	SN	C 1.9	3	C		62		
HOLL	26	1929	1950	2045D	N11	E12	3960	10	27.7	76D	SN		3	C		129		
RAMY	26	1938	1947	2024D	N11	E12	3960	10	27.7	46D	SN		3	C		84		
RAMY	26	2007	2011	2024D	S06	E18	3961	10	28.2	17D	SN		3	C		47		
GOES	26	2202	2205	2208						6		C 1.8						
LEAR	26	2304	2308	2315	N10	E10	3960	10	27.7	11	SF	C 1.4	3	C		33		FH
LEAR	26	2316	2320	2325	S13	W20	3955	10	25.5	9	SF		3	C		53		
PEKG	26	2358	0032	0110	N12	E21		10	28.6	72	1N			P	0032	315	3.5	F
LEAR	27	0052	0053	0122	N10	E07	3960	10	27.6	30	SN	C 2.2	3	C		148		F
YUNN	27	0053E	0053U	0105	N10	E05		10	27.4	12D	SB			P	0053	159	1.7	E
YUNN	27	0104	0107	0119	S06	E13		10	28.0	15	SN			C		64	.7	
LEAR	27	0106	0109	0120	S06	E15	3961	10	28.2	14	SF		3	C		32		F
LEAR	27	0124	0130	0133	N09	W01	3967	10	27.0	9	SF		3	C		33		
LEAR	27	0214	0218	0219	N10	E08	3960	10	27.7	5	SF		3	C		38		F

H - ALPHA S O L A R F L A R E S

OCTOBER 1982

Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Imp Sec	Obs Type	Time (UT)	Area Measurement Apparent (10^{-6} Disk)	Area Measurement Corr (Sq Deg)	Remarks
YUNN	27	0214	0238	0258	N10	E09		10	27.8	44	SB			C		79	.8	F
LEAR	27	0221	0305	0402	N10	E06	3960	10	27.5	101	1B	C 2.1	3	C		327		FE
PEKG	27	0223E	0226	0240	N11	E06		10	27.6	17D	SN			P	0226	97	1.0	F
GOES	27	0301	0306	0310			3960			9		C 7.5						
YUNN	27	0305E	0306	0345	S11	W38		10	24.3	40D	SN			P		143	2.0	EG
YUNN	27	0305E	0307	0328	N11	E08		10	27.7	23D	1N			P		318	3.3	FW
LEAR	27	0331	0409	0640	S11	W22	3955	10	25.5	189	2B	M 3.7	3	C		619		FEK
LEAR	27	0331	0433	0640	S11	W22	3955	10	25.5	189	1B		3	C		335		K
LEAR	27	0334	0337	0412	S11	W38	3954	10	24.3	38	1N		3	C		191		F
MANI	27	0338E	0338U	0344D	N13	W29		10	25.0	6D	SN		1	V		60	.7	F
YUNN	27	0341	0405	0415	S09	W23		10	25.4	34	2B			C		604	7.0	FKU
YUNN	27	0418	0440	0525	S09	W24		10	25.4	67	2B			C		763	8.9	FK
GOES	27	0430	0438	0503			3955			33		M 2.1						
LEAR	27	0535	0536	0600	S07	E12	3961	10	28.1	25	SF		3	C		61		F
YUNN	27	0537	0541	0554	N11	W33		10	24.7	17	SN			C		16	.2	D
LEAR	27	0537	0542	0613	N11	W30	3963	10	25.0	36	SN		3	C		76		F
BUCA	27	0820		0846	N11	W05		10	27.0	26	SN			C	0825	53	.5	
YUNN	27	0820	0825	0044	N10	W05		10	27.0	24	SN			C		32	.3	E
YUNN	27	0900E	0900U	0909	S08	E11		10	28.2	9D	SN			P	0900	16	.2	
YUNN	27	0930E	0930U	0950	N11	E04		10	27.7	20D	SN			P	0930	32	.3	
MONT	27	0937	0939	0944	N11	E05		10	27.8	7	SF			C	0939	50		
WEND	27	0938	0940	0948	N11	E05		10	27.8	10	SN			C	0940	60	.6	
WEND	27	1038	1053	1118	N11	E04		10	27.7	40	SN			C	1053	68	.7	
MONT	27	1044	1046	1057D	N11	E05		10	27.8	13D	SN			C	1046	70		
GOES	27	1047	1050	1052						5		C 2.3						
WEND	27	1230	1236	1246	S12	W40		10	24.5	16	SN			C	1236	22	.3	
GOES	27	1232	1238	1242						10		C 2.8						
RAMY	27	1315	1332	1410	N11	W00	3960	10	27.6	55	SF		3	C		67		
GOES	27	1511	1523	1529						18		C 1.1						
RAMY	27	1546	1547	1558	N10	W02	3960	10	27.5	12	SN	C 1.4	3	C		32		F
RAMY	27	1617	1635	1736	N11	W01	3960	10	27.6	79	SN	C 7.5	3	C		120		EU
RAMY	27	1632	1633	1649	S13	W38	3955	10	24.8	17	SN		3	C		62		
RAMY	27	1828	1829	1834	N10	W01	3960	10	27.7	6	SF		3	C		29		
RAMY	27	1912	1912	1924	S09	W31	3955	10	25.5	12	SF		3	C		28		
RAMY	27	1927	1927	2004	N09	W12	3967	10	26.9	37	SF		3	C		26		
RAMY	27	1951	1952	1958	S08	W31	3955	10	25.5	7	SF		3	C		52		
RAMY	27	2002	2007	2024	N10	W39	3963	10	24.9	22	SN		3	C		93		
RAMY	27	2010	2020	2024D	S06	E03	3961	10	28.1	14D	SN		3	C		151		F
RAMY	27	2013	2019	2024D	N11	W04	3960	10	27.5	11D	1N	C 4.5	3	C		251		U
HOLL	27	2121	2123	2128	S09	W32	3955	10	25.5	7	SF		3	C		30		
HOLL	27	2230	2235	2303	N10	W04	3960	10	27.6	33	SN	C 1.5	3	C		127		
HOLL	27	2318	2320	2345D	S07	W00	3961	10	28.0	27D	SF		3	C		40		
LEAR	27	2330	2336	2352	S06	E02	3961	10	28.1	22	SF	C 1.1	3	C		35		F
LEAR	28	0015	0016	0108	S06	E01	3961	10	28.1	53	SN	C 2.1	3	C		76		F
YUNN	28	0016E	0018	0031	S05	E00		10	28.0	15D	SN			P		79	.8	
LEAR	28	0028	0029	0049	N10	W06	3960	10	27.6	21	SN	C 2.5	3	C		124		F
YUNN	28	0028	0031	0045	N10	W05		10	27.6	17	1N			C		207	2.1	F
LEAR	28	0130	0131	0206	S12	W34	3955	10	25.5	36	SF	C 1.1	3	C		26		F
YUNN	28	0244	0251	0300	N14	W44		10	24.8	16	SN			P		16	.2	
LEAR	28	0247	0249	0252	N13	W06	3960	10	27.7	5	SF		3	C		39		
YUNN	28	0248E	0248U	0252	N10	W07		10	27.6	4D	SN			P	0248	16	.2	
LEAR	28	0255	0303	0314	N10	W04	3960	10	27.8	19	SF	C 1.2	3	C		55		F
YUNN	28	0259	0302	0315	N11	W08		10	27.5	16	SN			C		16	.2	
LEAR	28	0338	0408	0414D	N10	W38	3963	10	25.3	36D	SF	C 2.8	3	C		126		F
YUNN	28	0340	0347	0437	N12	W41		10	25.1	57	SB			C		48	.6	F
PEKG	28	0350E	0355	0423	N13	W40		10	25.1	33D	SN			P	0355	118	1.6	E
PEKG	28	0355E	0355	0424	S09	W36		10	25.5	29D	SF			P	0355	63	.8	E
YUNN	28	0357	0409	0425	S10	W37		10	25.4	28	SN			C		64	.9	E
LEAR	28	0359	0409	0414D	S09	W35	3955	10	25.5	15D	SF		3	C		115		F
YUNN	28	0534E	0534U	0548	S04	E02		10	28.4	14D	SN			P	0534	16	.2	D
LEAR	28	0753	0753	0809	S14	W46	3955	10	24.8	16	SF	C 1.2	3	C		20		
GOES	28	0925	0929	0930						5		C 1.3						
WEND	28	1009	1010	1014	N10	W25		10	26.5	5	SF			C	1010	18	.2	
GOES	28	1012	1015	1019						7		C 1.5						
GOES	28	1027	1033	1038						11		C 2.0						
MONT	28	1029	1032	1043	S06	W04		10	28.1	14	SN			C	1032	110		
WEND	28	1030	1033	1115	S06	W04		10	28.1	45	SN			C	1033	119	1.2	
MONT	28	1048	1052	1101	S11	W42		10	25.3	13	SN			C	1052	70		E
HOLL	28	1405E	1405U	1405D	S11	W49	3960	10	24.9	13D	1B		3	C		380		E
HOLL	28	1429	1444	1450	S10	W46	3955	10	25.1	21	SF	C 1.9	3	C		42		

H - ALPHA S O L A R F L A R E S

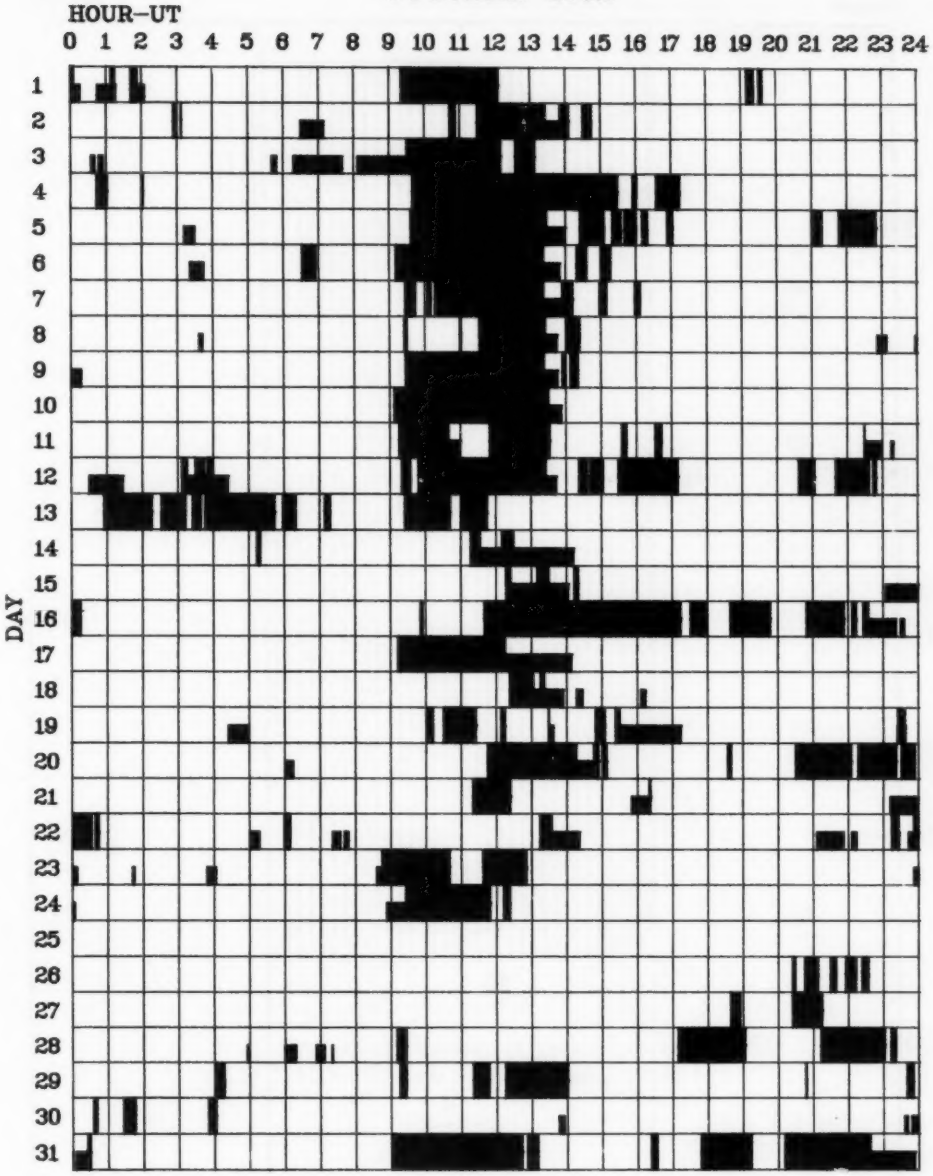
OCTOBER 1982

Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp	Opt	Xray	Obs See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10^{-6} Disk)	Area Measurement Corr (Sq Deg)	Remarks
WEND	28	1439	1444	1501	N12	W50		10	24.8	22	SN				C	1444	38	.6	
HOLL	28	1439	1458	1500D	N12	W51	3963	10	24.8	21D	SN			3	C		48		
RAMY	28	1442	1459	1515	N11	W52	3963	10	24.7	33	SN			3	C		32		FE
RAMY	28	1502	1504	1521	S11	W42	3955	10	25.5	19	SN			3	C		40		FE
RAMY	28	1557	1559	1605	N08	W27	3967	10	26.6	8	SN			3	C		54		
HOLL	28	1931	1937	1940	S10	W46	3955	10	25.4	9	SF			2	C		29		F
HOLL	28	1947	1948	2016	S06	W11	3961	10	28.0	29	SN	C	1.8	3	C		83		F
HOLL	28	1948	2000	2015	S09	W49	3955	10	25.1	27	SF			3	C		72		F
LEAR	28	2355	2358	0013	S11	W47	3955	10	25.5	18	SF			3	C		31		
LEAR	29	0038	0040	0050	S11	W52	3955	10	25.1	12	SF			3	C		37		
LEAR	29	0120	0124	0203	N10	W19	3960	10	27.6	43	1N	C	2.6	3	C		266		F
LEAR	29	0522	0526	0537	N11	W56	3963	10	25.0	15	SF			3	C		19		
LEAR	29	0526	0531	0559	S10	W53	3955	10	25.2	33	SN	C	1.3	3	C		101		F
LEAR	29	0543	0546	0613	N12	W57	3963	10	24.9	30	SF			3	C		20		
WEND	29	0846	0851	0908	S11	W54		10	25.3	22	1F				C	0851	144	2.5	
LEAR	29	0847	0849	0907	S08	W51	3955	10	25.5	20	SF	C	1.0	3	C		65		F
WEND	29	0944	0947	1004	N12	W61		10	24.8	20	SF				C	0947	75	1.6	
GOES	29	1314	1319	1323						9		C	1.1						
WEND	29	1401E		1422D	N13	W31		10	27.2	21D	1N				C	1403	319	3.9	
HOLL	29	1405E	1405U	1511	N13	W28	3960	10	27.5	66D	1B	C	5.7	3	C		380		E
RAMY	29	1605	1610	1653	N13	W58	3963	10	25.3	48	1B	C	2.4	3	C		144		FE
HOLL	29	1606	1608	1648	N14	W59	3963	10	25.2	42	1B			3	C		153		E
RAMY	29	1607	1611	1623	N15	W51	3959	10	25.8	16	SN			3	C		41		
HOLL	29	1613	1659	1826	N11	W26	3960	10	27.7	133	1N	C	4.7	3	C		221		F
RAMY	29	1616	1701	1735	N11	W25	3960	10	27.8	79	SN			3	C		126		
HOLL	29	1655	1655	1722	S10	W58	3955	10	25.3	27	SF			3	C		22		
HOLL	29	1738	1739	1800	S11	W61	3955	10	25.1	22	SF			3	C		17		
HOLL	29	1742	1743	1749	N08	W38	3967	10	26.9	7	SF			3	C		26		
RAMY	29	1750	1750	1754	S06	W16	3961	10	28.5	4	SN			3	C		39		F
HOLL	29	2042E	2108U	2124	N06	E03	3966	10	30.1	42D	SN			3	C		59		F
HOLL	29	2052	2054	2100	S05	W17	3961	10	28.6	8	SN			3	C		53		
HOLL	29	2059	2101	2107	N12	W66	3963	10	24.9	8	SN			3	C		42		
HOLL	29	2130	2136	2200	S07	W27	3961	10	27.9	30	SF			3	C		37		
HOLL	29	2132	2132	2142	S10	W63	3955	10	25.2	10	SF			3	C		15		
HOLL	29	2149	2149	2201	N12	W67	3963	10	24.9	12	SF			3	C		12		
HOLL	29	2216	2224	2251	S10	W63	3955	10	25.2	35	SN	C	2.7	3	C		79		F
GOES	30	0349	0352	0354						5		C	1.3						
LEAR	30	0453	0454	0516	S10	W66	3955	10	25.2	23	SF			3	C		18		
LEAR	30	0729	0731	0740	N05	W05	3966	10	29.9	11	SF			3	C		36		
WEND	30	0802	0805	0809	S25	E75		11	5.1	7	SF				C	0805	31		
BUCA	30	0810		0813	S22	E75		11	5.1	3	SN				P	0811	53		D
LEAR	30	0811	0812	0817	N06	W02	3966	10	30.2	6	SN			3	C		29		F
BUCA	30	0813		0820	N08	W01		10	30.3	7	SB				C	0815	53	.5	D
GOES	30	0952	1005	1013						21		C	1.2						
WEND	30	0955	1001	1006	S25	E74		11	5.1	11	SF				C	1001	44		
GOES	30	1141	1144	1153						12		C	2.1						
WEND	30	1157	1213	1259	N07	W04		10	30.2	62	SF				C	1259	63	.7	
GOES	30	1412	1415	1418						6		C	1.2						
GOES	30	1505	1508	1515						10		C	1.8						
HOLL	30	1531	1539	1547	S04	W31	3961	10	28.3	16	SF			3	C		53		H
RAMY	30	1538	1539	1559	S04	W30	3961	10	28.4	21	SF			3	C		40		
GOES	30	1635	1639	1642						7		C	1.0						
HOLL	30	1731	1732	1741	N06	W07	3966	10	30.2	10	SN	C	1.3	3	C		32		F
HOLL	30	1836	1841	1858	N06	W07	3966	10	30.3	22	SN	C	1.3	3	C		74		F
GOES	30	1838	1839	1846						8		C	1.3						
HOLL	30	1915	1917	1949	N11	W78	3963	10	24.9	34	1N	C	2.4	3	C				
HOLL	30	1931	1936	2019	N08	W51	3967	10	27.0	48	1B	C	2.9	3	C		235		FE
HOLL	30	2136	2155	2229	N07	W12	3966	10	30.0	53	SF			3	C		150		F
LEAR	31	0225	0228	0236	N14	W68	3959	10	26.0	11	SF			3	C		37		
LEAR	31	0521	0523	0525	S07	W41	3961	10	28.1	4	SF	C	1.1	3	C		17		F
GOES	31	1105	1115	1121						16		C	1.2						
GOES	31	1136	1139	1143						7		C	2.0						
GOES	31	2141	2143	2146						5		C	1.3						
GOES	31	2153	2212	2122			3966			1409		C	2.4						
HOLL	31	2209E	2213	2255	N05	W25	3966	10	30.1	46D	SB			3	C		133		F

INTERVALS OF NO FLARE PATROL OBSERVATION

FOR PRECEDING SOLAR FLARE TABLE

OCTOBER 1982



Observatories included in total patrol:

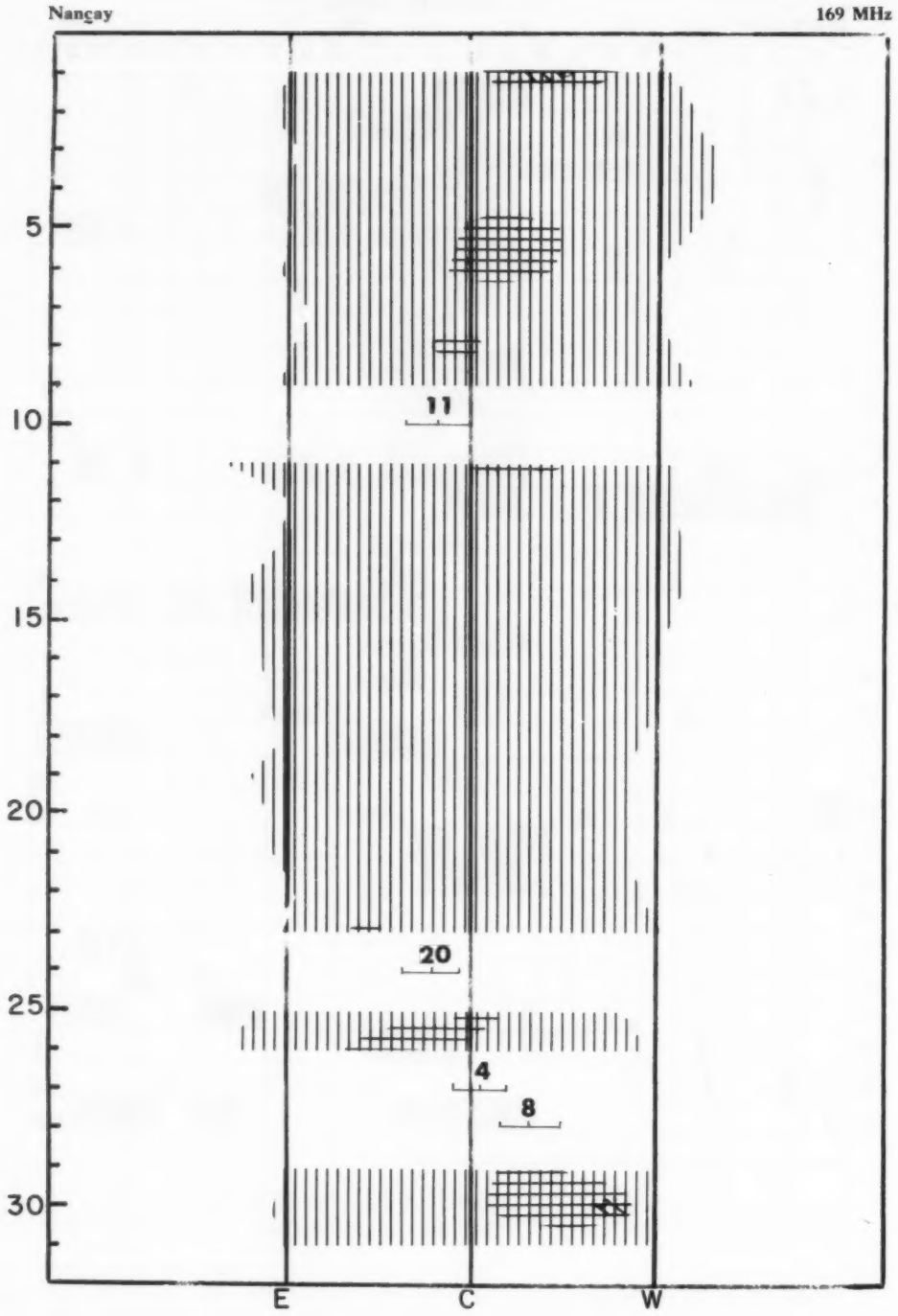
Bucharest	Istanbul	Learmonth	Monte Mario	Ramey
Holloman	Kandilli	Manila	Palehua	Wendelstein
			Peking	Yunnan

Times of no flare patrol are shown by the shaded area for each day divided into times of no cinematographic patrol (bottom half of day) and times of neither visual nor cinematographic patrol (top half of day).

26
Oct 82

SOLAR RADIO EMISSION
INTERFEROMETRIC OBSERVATION

OCTOBER 1982

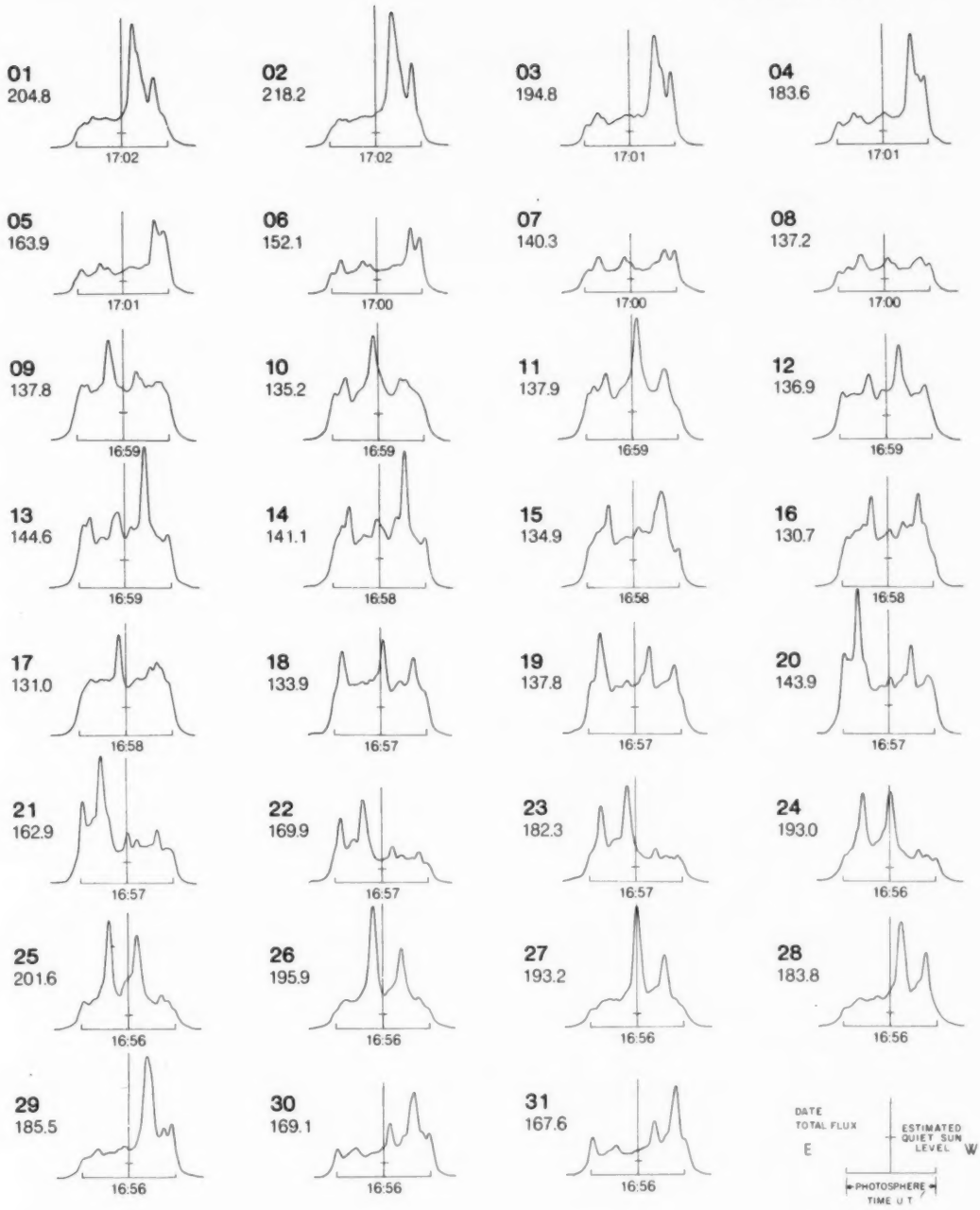


EAST-WEST SOLAR SCANS

OCTOBER 1982

ALGONQUIN RADIO OBSERVATORY
CANADA

10·7 cm
Fan Beam with 1·5 minutes of arc
E-W Resolution



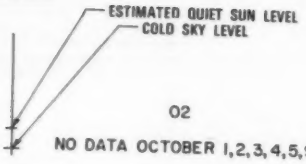
28
Oct 82

EAST-WEST SOLAR SCANS

OCTOBER 1982

Fleurs, Australia

21 cm
Fan-Beam with 2 minutes of arc
E-W Resolution



01

02

NO DATA OCTOBER 1, 2, 3, 4, 5, 9, 10, 25

03

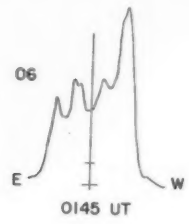
NO DATA

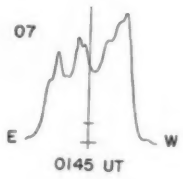
04

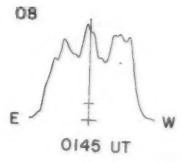
NO DATA

05

NO DATA





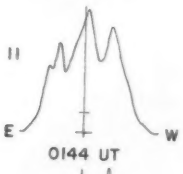


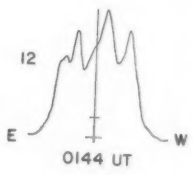
09

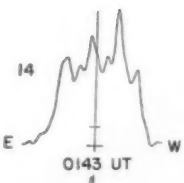
NO DATA

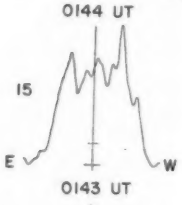
10

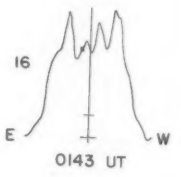
NO DATA

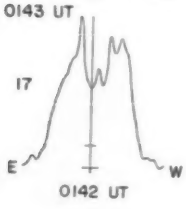


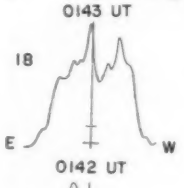


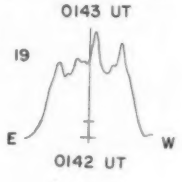


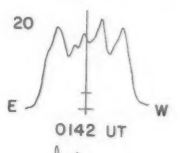


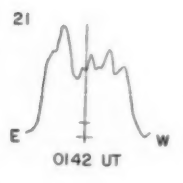


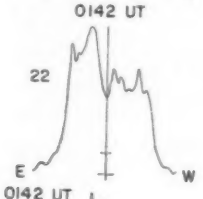


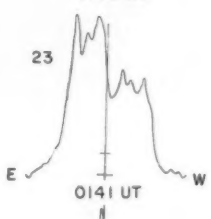


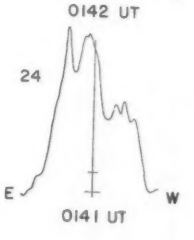






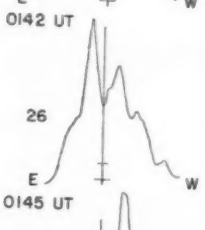


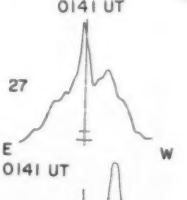


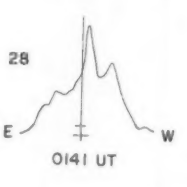


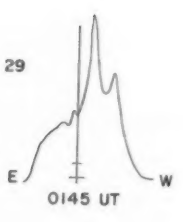
25

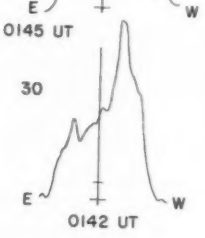
NO DATA

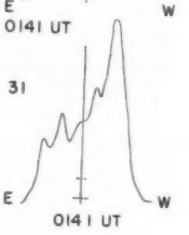










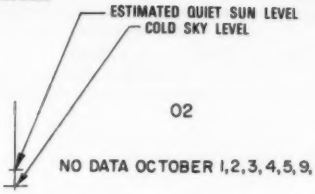


EAST-WEST SOLAR SCANS

OCTOBER 1982

Fleurs, Australia

43 cm
Fan-Beam with 4 minutes of arc
E-W Resolution



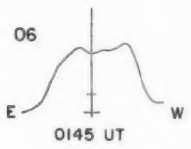
01 NO DATA OCTOBER 1,2,3,4,5,9,10,13,25

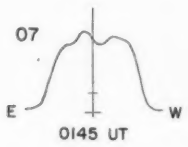
02 NO DATA

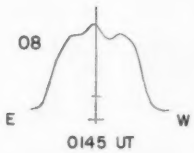
03 NO DATA

04 NO DATA

05 NO DATA







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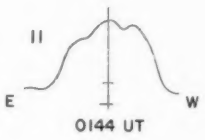
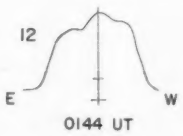
10 NO DATA





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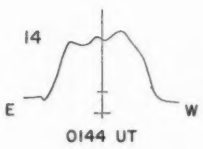

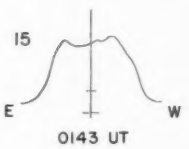

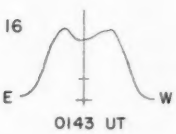

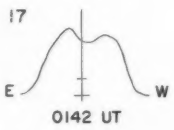

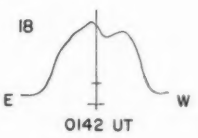

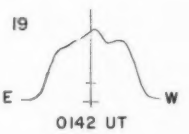

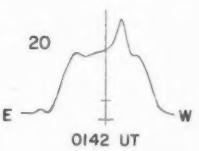

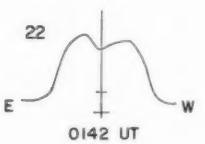

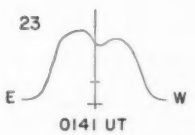

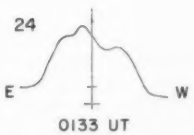

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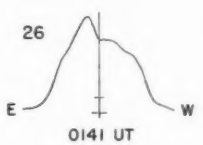
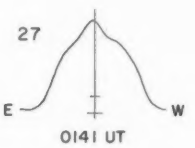
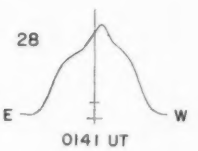
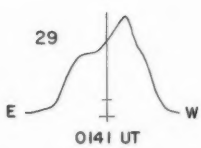
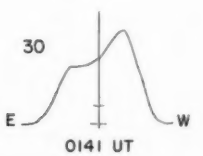
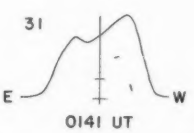












SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

OCTOBER 1982

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
01	2800	OTTA	20	GRF	1410.0	1455.0	60.0	4.0	2.2		
	2800	OTTA	20	GRF	1745.0	1830.0	85.0	4.8	2.4		
	2695	SGMR	4	S/F	1852.0	1857.0	5.00	18.0			QL=6 ST=2 TYP=3
02	2800	OTTA	21	GRF	1525.0	1650.0	205.0	9.0	4.5		
	2800	OTTA	8	S	1558.0	1558.0	.1	9.6			
	2800	OTTA	20	GRF	1816.0	1817.0	20.0	7.4	2.5		
	2695	PENT	20	GRF	2140.0	2220.0	80.0	3.8	1.9		
03	2800	OTTA	1A	S	1654.0	1655.0	2.0	2.8	1.4		
	2800	OTTA	8	S	1655.0	1655.0	.2	25.6			
	2695	PENT	20	GRF	2010.0	2013.0	30.0	7.4	2.4		
	2695	PENT	20	GRF	2120.0	2132.0	70.0	4.4	2.2		
04	8400	BERN	8	S	0750.0	0750.2	1.0	25.0			ONLY PAPER REC
	8800	ATHN	8	S	0750.3	0750.5	.8	28.0			QL=6 ST=2 TYP=3
	2695	ATHN	8	S	0750.3	0750.5	.8	9.0			QL=6 ST=2 TYP=3
	2800	OTTA	20	GRF	1210.0	1235.0	80.0	5.2	2.8		
	2800	OTTA	20	GRF	1335.0	1430.0	165.0	4.2	2.6		
	2800	OTTA	22	GRF	1640.0	1746.0	120.0	7.8	2.8		
	2800	OTTA	20	GRF	1925.0	2000.0	70.0	3.0	1.5		
05	8400	BERN	22	GRF	1142.6	1146.4	19.0	22.0			ONLY PAPER REC
	2800	OTTA	260	FAL	1255.0	1410.0	75.0	-8.4	-4.4		
	8400	BERN	3	S	1552.5	1553.9	8.0	81.0			
	8800	SGMR	47	GB	1553.0	1553.8	2.6	61.0			QL=6 ST=2 TYF=5
	2800	OTTA	1	S	1558.0	1559.0	2.0	2.0	1.0		
	2800	OTTA	260	FAL	1615.0	1655.0	40.0	-3.4	-1.7		
	2800	OTTA	20	GRF	1800.0	1930.0	160.0	4.0	2.0		
	2695	PENT	1	S	2143.5	2144.0	7.0	7.2	2.0		
06	2695	PENT	20	GRF	2100.0	2130.0	115.0	3.4	2.6		
	8800	PALE	47	GB	2301.8	2302.3	2.3	57.0			QL=6 ST=2 TYP=5
07	8800	PALE	47	GB	0113.1	0113.3	2.0	82.0			QL=6 ST=2 TYP=5
	8800	PALE	8	S	0251.1	0251.1	.4	20.0			QL=6 ST=2 TYP=3
10	2695	SGMR	8	S	1702.8	1703.5	1.8	31.0			QL=6 ST=2 TYP=3
	2800	OTTA	20	GRF	1720.0	1745.0	100.0	3.0	1.5		
	2800	OTTA	240	R	1930.0	2020.0	50.0	3.8	2.2		
	2695	PENT	20	GRF	2200.0	2250.0	90.0	2.4	1.2		
11	2800	OTTA	1	S	1724.0	1725.0	3.0	2.2	1.5		
	2695	PENT	1	S	2238.0	2239.3	2.0	2.4	1.0		
12	2800	OTTA	8	S	1909.9	1910.0	.8	3.4	1.7		
14	8800	PALE	8	S	0014.8	0014.8	.3	20.0			QL=6 ST=2 TYP=3
	2695	PENT	3	S	0014.8	0015.0	1.0	48.0	12.0		
	2695	PALE	8	S	0014.8	0015.0	.5	47.0			QL=5 ST=2 TYP=3
	8800	PALE	8	S	0152.6	0152.8	1.0	30.0			QL=6 ST=2 TYP=3
	2800	OTTA	20	GRF	1815.0	1905.0	105.0	4.4	2.2		
	2800	OTTA	20	GRF	2010.0	2017.0	15.0	1.8	.8		
15	2800	OTTA	46F	C	2036.5	2037.5	11.0	7.2	2.0		
	2695	SGMR	8	S	2037.3	2037.6	2.0	38.0			QL=6 ST=2 TYP=3
	2695	SGMR	4	S/F	2041.1	2041.5	6.4	23.0			QL=6 ST=2 TYP=3
16	8400	BERN	20	GRF	0832.8	0834.3	20.0	21.0			
	2800	OTTA	1	S	1454.4	1455.3	2.5	1.8	.9		
	2800	OTTA	4	S/F	1629.5	1631.5	4.0	53.0	13.2		
	2800	OTTA	1	S	2122.2	2122.9	1.5	3.8			
18	2800	OTTA	20	GRF	1840.0	1847.0	50.0	3.8	1.7		
19	2800	OTTA	21	GRF	1520.0	1600.0	100.0	2.0	1.0		
	2800	OTTA	8	S	1520.5	1520.7	.5	4.0			
20	2800	OTTA	8	S	1613.0	1613.2	.5	1.0	.5		
	2800	OTTA	20	GRF	1640.0	1750.0	105.0	3.0	1.5		

SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

OCTOBER 1982

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
21	8800	PALE	47 GB	0034.0	0034.6	2.8	300.0			QL=6 ST=2 TYP=5
	2695	ATHN	8 S	1022.1	1022.5	1.4	29.0			QL=2 ST=2 TYP=3
	2800	OTTA	1 S	1357.5	1358.3	2.0	6.2	2.1		
	2800	OTTA	1 S	2001.0	2002.5	3.0	7.4	2.6		
	8800	PALE	8 S	2002.1	2002.6	1.0	21.0			QL=6 ST=2 TYP=3
	2695	PENT	1 S	2115.5	2117.2	3.0	2.0	.8		
	2695	PENT	1 S	2156.5	2157.3	2.0	2.8	1.4		
	2695	PENT	1 S	2308.0	2308.5	1.5	6.4	2.8		
22	8800	PALE	8 S	0115.3	0115.5	1.0	23.0			QL=6 ST=2 TYP=3
	2695	PALE	47 GB	2015.6	2015.6	.4	97.0			QL=6 ST=2 TYP=5
	2800	OTTA	240AR	2121.0	2123.0	2.0	3.0			
	2800	OTTA	1 S	2122.0	2123.0	1.0	2.0	1.0		
23	2800	OTTA	240AR	1250.0	1320.0	30.0	8.0	4.0		
	8800	ATHN	4 S/F	1252.0	1252.8	3.8	38.0			QL=6 ST=2 TYP=3
	8400	BERN	3 S	1252.4	1254.3	5.5	68.0			
	2695	ATHN	8 S	1252.6	1253.0	1.2	24.0			QL=2 ST=2 TYP=3
	8800	SGMR	4 S/F	1252.6	1253.6	3.7	44.0			QL=6 ST=2 TYP=3
	2800	OTTA	3 S	1252.7	1253.5	7.0	29.0	8.0		
	2695	SGMR	47 GB	1253.3	1253.5	2.3	70.0			QL=6 ST=2 TYP=5
	2800	OTTA	20 GRF	1325.0	1340.0	150.0	8.0	4.2		
	2800	OTTA	20 GRF	1655.0	1705.0	75.0	3.8	1.9		
	2800	OTTA	240 R	1820.0	1840.0	20.0	3.2	1.6		
	2800	OTTA	1 S	2051.0	2052.0	2.5	3.2	1.6		
24	8800	ATHN	4 S/F	0601.8	0602.3	2.7	36.0			QL=6 ST=2 TYP=3
	8800	ATHN	4 S/F	0605.8	0607.5	4.8	29.0			QL=6 ST=2 TYP=3
	2695	ATHN	4 S/F	0605.8	0607.5	4.8	11.0			QL=2 ST=2 TYP=3
	8800	ATHN	4 S/F	0701.5	0704.6	6.8	29.0			QL=6 ST=2 TYP=3
	2695	ATHN	4 S/F	0702.1	0704.6	6.2	18.0			QL=2 ST=2 TYP=3
	8400	BERN	3 S	0704.2	0704.6	2.0	26.0			
	2800	OTTA	240 R	1350.0	1420.0	30.0	7.0	3.5		
	2800	OTTA	21 GRF	1455.0	1515.0	75.0	7.0	3.0		
	2800	OTTA	4 S/F	1503.5	1504.4	2.0	22.6	11.3		
	2695	SGMR	4 S/F	1503.8	1504.3	2.3	34.0			QL=6 ST=2 TYP=3
	2800	OTTA	4 S/F	1510.5	1511.2	4.0	60.0	20.0		
	8400	BERN	4 S/F	1510.6	1511.3	5.0	98.0			
	8800	ATHN	47 GB	1510.6	1511.5	1.9	54.0			QL=6 ST=3 TYP=5
	8800	SGMR	47 GB	1510.8	1511.3	3.5	91.0			QL=6 ST=2 TYP=5
	2695	ATHN	47 GB	1511.0	1511.1	1.8	85.0			QL=2 ST=2 TYP=5
	2695	SGMR	47 GB	1511.1	1511.1	2.7	139.0			QL=6 ST=2 TYP=5
	2800	OTTA	20 GRF	1710.0	1735.0	70.0	4.6	3.3		
	2800	OTTA	1 S	1840.0	1840.3	1.5	6.6	3.3		
25	2695	ATHN	4 S/F	0505.8	0508.1	5.5	40.0			QL=2 ST=3 TYP=3
	8800	ATHN	47 GB	0506.3	0508.5	4.7	68.0			QL=6 ST=3 TYP=5
	2695	ATHN	8 S	0710.0	0710.6	1.5	27.0			QL=2 ST=2 TYP=3
	8800	ATHN	8 S	0710.0	0710.6	.8	15.0			QL=6 ST=2 TYP=3
	8400	BERN	3 S	0710.5	0711.3	2.5	30.0			
	2800	OTTA	40 F	1253.0	1255.5	4.0	10.0			
	8800	SGMR	8 S	1253.1	1253.1	1.0	18.0			QL=6 ST=2 TYP=3
	2800	OTTA	21 GRF	1540.0	1610.0	135.0	11.4	4.0		
	2800	OTTA	2 S/F	1556.0	1559.0	7.0	9.0	4.2		
	2800	OTTA	20 GRF	1940.0	2100.0	185.0	9.6	4.4		
	2695	PENT	40 F	2250.0	2306.0	30.0	104.0			
	8800	PALE	47 GB	2253.1E	2254.1	17.2D	130.0			QL=2 ST=2 TYP=5
	2695	PALE	47 GB	2253.8E	2254.1	10.3D	23.0			QL=2 ST=2 TYP=5
26	2695	PALE	4 S/F	0013.6	0013.6	12.0	11.0			QL=6 ST=2 TYP=3
	2800	OTTA	8 S	1314.9	1315.0	.7	9.8			
	2800	OTTA	240AR	1415.0	1430.0	15.0	3.0	1.5		
	2695	SGMR	4 S/F	1415.6	1417.3	2.7	23.0			QL=6 ST=2 TYP=3
	2800	OTTA	1 S	1421.0	1423.0	6.0	2.6	1.3		
	2800	OTTA	20 GRF	1920.0	2020.0	155.0	4.0	1.8		
27	8800	PALE	8 S	0052.5	0052.6	.5	20.0			QL=6 ST=2 TYP=3
	2800	OTTA	20 GRF	1515.0	1525.0	15.0	2.2	1.1		
	2800	OTTA	1 S	1550.0	1555.0	10.0	2.6	1.3		
	2800	OTTA	21 GRF	1625.0	1705.0	90.0	3.0	1.5		

SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

OCTOBER 1982

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
27	2800	OTTA	46F C	1630.5	1633.0	6.0	21.4	5.4		
	2800	OTTA	1 S	1724.0	1725.0	1.5	3.6			
	2800	OTTA	21 GRF	1935.0	2030.0	135.0	6.2	3.0		
	2800	OTTA	8 S	1943.9	1944.0	.5	4.0	2.0		
	2695	PENT	8 S	2013.0	2013.2	.8	2.0	1.0		
┌	2800	OTTA	3 S	2017.0	2020.0	10.0	13.8	4.6		
├	8800	SGMR	4 S/F	2018.3	2019.5	3.0	15.0			QL=6 ST=2 TYP=3
├	8800	PALE	8 S	2019.0	2019.8	1.3	32.0			QL=3 ST=2 TYP=3
├	2695	PALE	8 S	2019.3	2019.8	.8	17.0			QL=3 ST=2 TYP=3
└	2695	SGMR	4 S/F	2019.3	2019.8	2.5	23.0			QL=6 ST=2 TYP=3
	2695	PENT	3 S	2230.9	2231.1	1.5	17.6	5.0		
28	2800	OTTA	21 GRF	1430.0	1510.0	105.0	4.0	2.0		
	2800	OTTA	1 S	1503.0	1503.8	1.0	3.6	1.8		
	2800	OTTA	20 GRF	1630.0	1730.0	130.0	5.6	3.0		
	2800	OTTA	20 GRF	1945.0	1950.0	20.0	3.8	1.9		
	2695	PENT	20 GRF	2110.0	2120.0	25.0	2.2	1.1		
	2695	PENT	1 S	2217.0	2218.0	5.0	9.6	3.2		
29	2800	OTTA	2 S/F	1315.5	1316.0	2.5	4.6	1.8		
	2800	OTTA	21 GRF	1345.0		125.0	11.6	7.8		
┌	2800	OTTA	40 F	1347.0	1347.7	6.0	25.0			
└	2695	SGMR	8 S	1347.3	1347.5	1.2	23.0			QL=6 ST=2 TYP=3
	2695	SGMR	8 S	1407.1	1407.3	1.4	24.0			QL=6 ST=2 TYP=3
	2800	OTTA	8 S	1514.0	1514.0	.5	5.0	1.6		
	2800	OTTA	21 GRF	1605.0	1700.0	115.0	13.0	6.5		
	2695	SGMR	4 S/F	1645.0	1646.8	3.0	19.0			QL=6 ST=2 TYP=3
┌	2695	SGMR	4 S/F	1651.1	1653.6	8.5	24.0			QL=6 ST=2 TYP=3
└	2800	OTTA	1 S	1652.0	1653.3	3.0	2.4	1.2		
	2695	SGMR	4 S/F	1702.3	1704.6	11.8	20.0			QL=6 ST=2 TYP=3
	2800	OTTA	8 S	1718.8	1719.0	.3	4.6			
	2695	SGMR	4 S/F	1745.6	1749.6	17.2	37.0			QL=6 ST=2 TYP=3
30	2800	OTTA	1 S	1730.0	1731.0	7.0	2.2	1.0		
31	2800	OTTA	20 GRF	1730.0	1840.0	100.0	2.0	1.0		

Observatories:

BERN = Berne MANI = Manila OTTA = Ottawa ARO PENT = Penticton SGMR = Sagamore Hill
LEAR = Learmonth ATHN = Athens PALE = Palehua

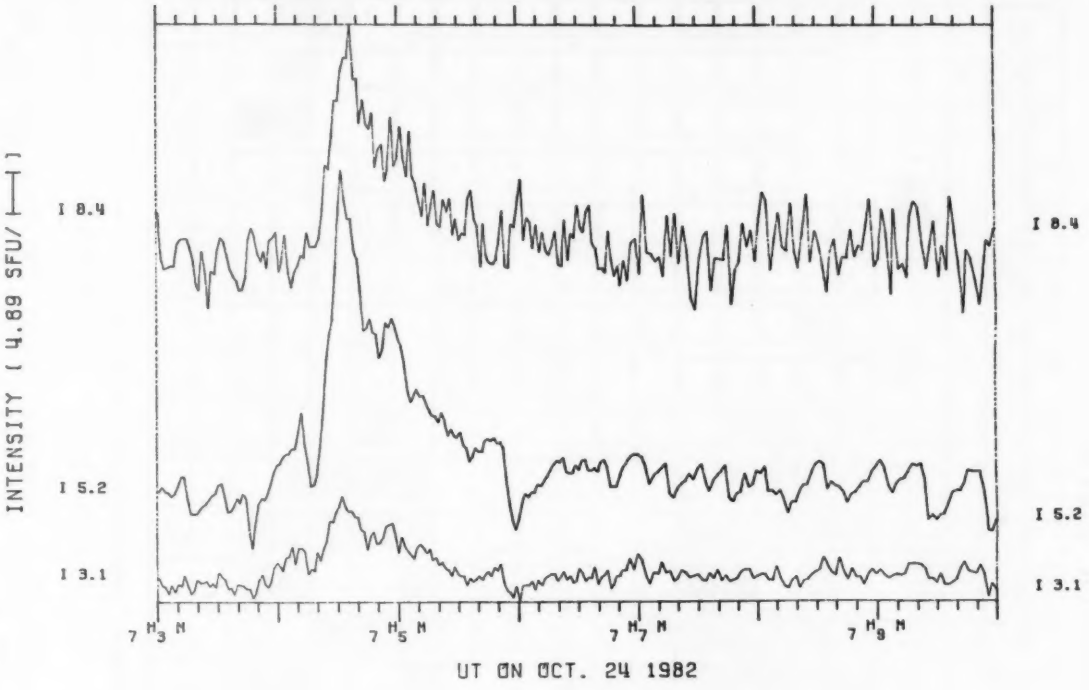
Explanation of Type Code:

1 Simple 1
2 Simple 1F
3 Simple 2
4 Simple 2F
5 Simple
6 Minor
7 Minor +
8 Spike
20 Simple 3
21 Simple 3A
22 Simple 3F
23 Simple 3AF
24 Rise
25 Rise A
26 Fall
27 Rise and Fall
28 Precursor
29 Post Burst Increase
30 Post Burst Increase A
31 Post Burst Decrease
32 Absorption
40 Fluctuation
41 Group of Bursts
42 Series of Bursts
43 Onset on Noise Storm
44 Noise Storm In Progress
45 Complex
46 Complex F
47 Great Burstise Storm
48 Major
49 Major +

SELECTED SOLAR NOISE BURSTS

INSTITUTE OF APPLIED PHYSICS, UNIVERSITY OF BERN, SWITZERLAND

INTEGRATION TIME= 1500 MS



INFERRED IP MAGNETIC FIELD

BARTELS ROTATION	DATE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
2019	APR 13	TA	-	-	-						-				TA				*	AT	-		-		- AT		-	-
2020	MAY 10	- -	- -	- TA	AT	TA		-		TA			TA									*	*					
2021	JUN 6		*								AT				TA			AT		-	- -	- -	-	-	-	-	-	-
2022	JUL 3	-	-	-	-	-	- -	-	- -	- -	-	-	- -	- -	- -	- -	-	-	-	-	-	- -	- -	- -	- -	-	-
2023	JUL 30	-	- -	- -	-	-	-	-	- -	-	-	-	-	-	-	- -	- -	-	TA -	TA -	- -	-	-	-	-	AT -	- -	-
2024	AUG 26	- -	-	-	TA -	TA -	-	TA -	-	-	TA -	-	-	-	-	TA -	-	TA -	-	-	-	-	TA -	-	-	-	-	-
2025	SEP 22	-	-	-	-	-	-	-	AT -	TA -	-	-	-	TA -	-	TA -	TA -	TA -	-	AT -	-	TA -	AT -	TA -	AT -	TA -	TA -	TA -
2026	OCT 19	AT -	TA -	TA -	-	-	-	-	TA -	TA -	-	TA -	-	-	-	-	TA -	-	-	-	-	-	AT -	TA -	-	-	-	-
2027	NOV 15	-	-	-	AT -	AT -	-	-	-	-	AT -	-	-	-	-	-	TA -	-	TA -	TA -	AT -	-	-	-	-	-	AT -	-
2028	DEC 12	TA -	-	-	-	AT -	AT -	-	-	AT -	TA -	-	-	-	-	-	-	AT -	-	AT -	TA -	-	-	-	-	TA -	-	- -
2029	1982 JAN 8	-	-	-	-	-	TA -	TA -	-	-	-	-	-	-	TA -	-	-	TA -	-	-	-	AT -	-	- -	- -	AT -	-	-
2030	FEB 4	-	-	-	TA -	TA -	TA -	TA -	-	-	TA -	-	-	-	-	-	TA -	-	-	-	-	-	-	-	TA -	-	-	TA -
2031	MAR 3	-	-	-	-	-	TA -	TA -	-	TA -	TA -	-	TA -	-	-	TA -	-	-	-	TA -	TA -	-	-	-	-	-	-	AT -
2032	MAR 30	-	TA -	-	TA -	-	-	-	-	-	-	TA -	-	-	- -	-	-	AT -	TA -	-	TA -	-	-	-	-	-	-	-
2033	APR 26	- -	AT -	-	-	-	- -	-	TA -	TA -	-	-	-	-	- -	-	-	-	-	-	-	-	-	-	-	AT -	AT -	-
2034	MAY 23	-	-	-	AT -	- -	TA -	-	-	-	-	- -	AT -	-	- -	-	-	-	-	-	- -	- -	- -	- -	- -	- -	-	TA -
2035	JUN 19	-	-	-	-	-	-	-	-	-	- -	-	-	TA -	-	- -	-	- -	-	-	-	- -	-	TA -	-	-	-	-
2036	JUL 16	-	- -	-	- -	- -	TA -	-	-	-	-	AT -	-	- -	-	AT -	- -	- -	- -	- -	-	- -	- -	-	-	-	- -	-
2037	AUG 12	-	-	-	- -	-	-	- -	-	TA -	-	- -	TA -	TA -	TA -	-	- -	-	TA -	-	TA -	-	-	-	-	-	-	-
2038	SEP 8	TA -	AT -	-	-	-	-	-	-	-	-	-	-	-	TA -	-	AT -	-	-	-	-	-	TA -	-	-	-	-	-
2039	OCT 5	-	AT -	-	AT -	-	-	-	-	-	AT -	TA -	-	-	-	-	AT -	-	-	-	-	-	-	-	TA -	-	-	-

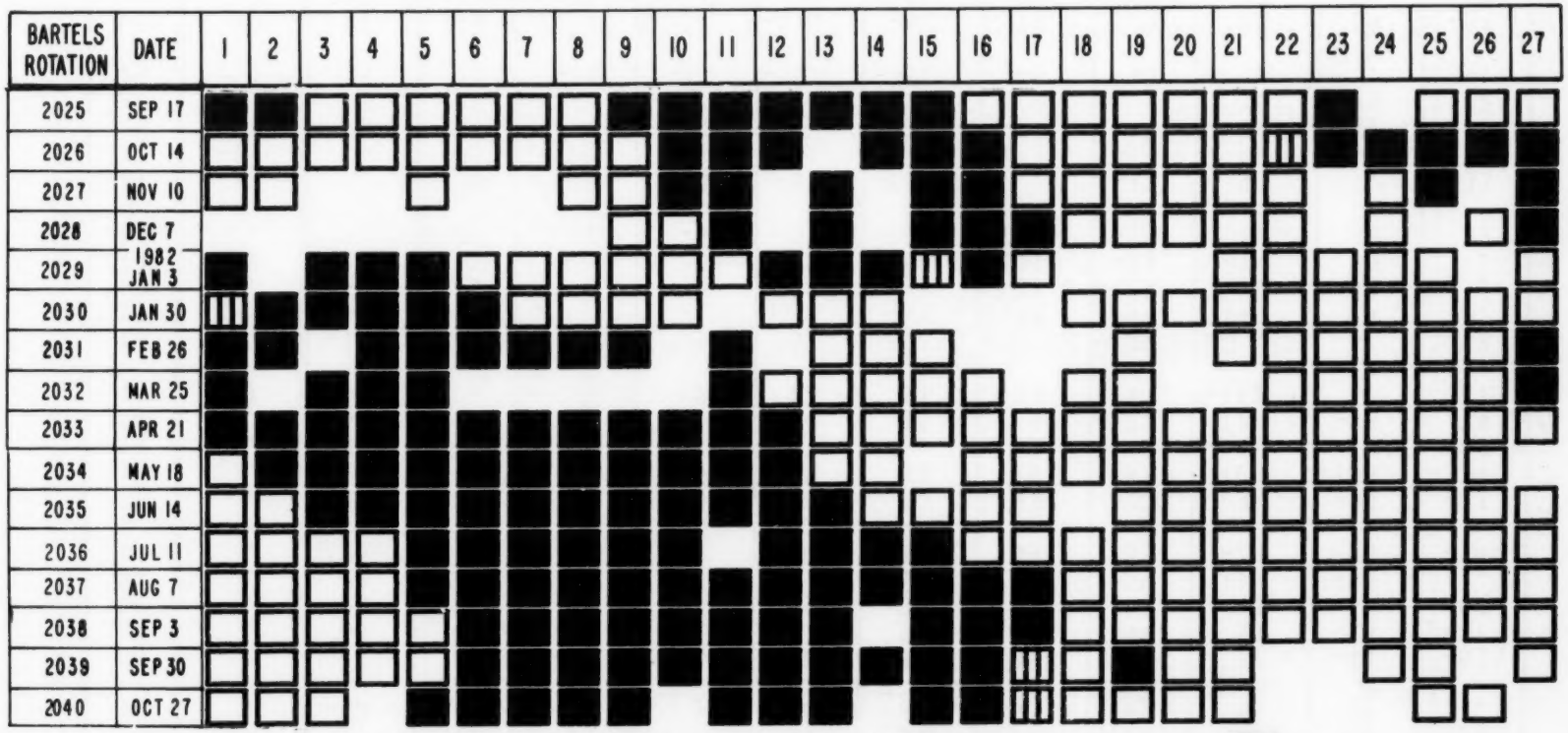
▨ = definitely towards the sun □ = definitely away from the sun

T = towards the sun A = away from the sun * = effect doubtful or not discernible - = missing data

The table shows daily inferences of the polarity of the interplanetary magnetic field. The first half of the day is based principally on magnetograms produced by the magnetometer at the Vostok Antarctic Station of the USSR. The magnetometer of the U.S. Air Weather Service now operated at Thule by the Danish Meteorological Institute is used for the second half of the day. The Thule magnetometer ceased operating in August 1981.

netometer of the U.S. Air Weather Service now operated at Thule by the Danish Meteorological Institute is used for the second half of the day. The Thule magnetometer ceased operating in August 1981.

STANFORD MEAN SOLAR MAGNETIC FIELD



POLARITY OF THE MEAN SOLAR MAGNETIC FIELD: □ = FIELD >2μT, ▥ = -2μT ≤FIELD ≤2μT, ■ = FIELD <-2μT

No box visible indicates no data available for that day.

NOTE: Data are taken daily at 2000 UT. Dates given are not Bartels Rotation dates. These earlier dates correspond to the occurrence of phenomena on the Sun that affect the Earth during the given Bartels Rotation.

STANFORD MEAN SOLAR MAGNETIC FIELD (MICROTESLA)

1981 1982

day	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.
01	43	15	-20	-19	.	-6	.	.	49	89	22	-31
02	.	-6	-44	-9	.	-6	33	85	19	102	53	-15
03	46	-17	-29	-20	.	23	38	75	19	84	37	-18
04	-3	.	-3	-39	-17	43	54	71	52	66	18	-38
05	.	-10	9	-44	3	48	80	53	85	68	-6	.
06	-12	-5	19	-21	38	16	82	35	105	55	-41	-63
07	.	-4	43	.	60	41	77	29	81	30	-54	-61
08	.	25	64	-2	57	69	80	42	63	-27	-76	-68
09	.	23	.	.	24	74	68	54	59	-55	-90	.
10	.	36	15	16	.	70	54	63	33	-74	-93	-54
11	.	45	24	34	61	65	50	87	-30	-93	-96	-21
12	.	35	33	35	46	79	58	79	-87	-124	-100	1
13	.	16	.	.	.	87	.	43	-118	-125	-70	19
14	.	-7	.	.	.	77	78	9	-121	-120	-35	34
15	57	-6	.	.	86	72	51	-39	-144	-112	-7	37
16	17	-12	14	21	93	51	-13	-112	-149	.	-1	52
17	-5	-1	16	.	71	38	-51	-164	-141	-49	4	.
18	.	-3	5	4	46	27	-93	-193	-124	-28	-43	.
19	-37	33	15	20	28	-15	-184	-201	-93	-14	55	.
20	.	.	27	31	-6	-57	-237	-189	-59	12	33	22
21	-39	.	38	25	-38	-68	-225	.	-32	40	.	33
22	-11	.	48	22	-78	-93	-170	-128	-16	44	.	.
23	-2	9	41	14	-113	-132	-123	-71	-12	26	17	.
24	35	25	28	-2	-107	-158	-69	-29	5	10	45	12
25	4	35	10	-26	-93	-151	-56	-5	32	8	.	-1
26	39	42	-3	.	-104	-118	-40	12	39	18	54	-31
27	17	36	-34	-61	-117	-26	11	28	47	36	55	-58
28	29	.	.	-56	-122	-26	37	38	46	72	34	.
29	.	15		-53	-77	-10	45	48	25	57	20	.
30	24	0		.	-26	19	59	61	39	52	.	.
31	.	-10		.		46		53	64		-11	

DOT SYMBOL INDICATES NO DATA AVAILABLE FOR THE DAY.

P I O N E E R X I I
SOLAR WIND

October 1982

DATE Oct '82	TIME (UT)	ESV (°)	U_{H+} (km/s)	N_{H+} (H^+/cc)	T_{H+} (x10^6 K)
1	0358	159	428.	27.4	0.165
2	0606		468.	21.4	.266
3	0759		489.	13.9	.317
4	0311		400.	20.8	.03
5	1659		493.	37.1	.368
6	1548		621.	14.8	.463
7	0333		570.	15.	.352
8	1450		509.	11.	.092
9	0418		559.	14.9	.132
10	0328		458.	10.4	.107
11	0420		389.	19.7	.069
12	0353		430.	16.	.164
13	1538		347.	18.9	.049
14	0400		321.	38.4	.079
15	1546	168	579.	60.9	.201
16	0636		522.	14.5	.082
17	0303		500.	10.4	.224
18	0352		412.	3.1	.35
	2313		409.	14.6	.169
19	0311		378.	16.2	.208
20	1731		413.	21.1	.126
21	0215		366.	15.8	.04
22	0005		325.	42.7	.077
23	0759		465.	13.1	.294
24					
25					
26	VENUS UNDERGOING SUPERIOR				
27					
28	CONJUNCTION; SPACECRAFT DATA				
29					
30	LINK EXCESSIVELY NOISY.				
31					

DOT SYMBOL INDICATES NO DATA AVAILABLE FOR THE DAY.

BOULDER GEOMAGNETIC SUBSTORM LOG
October 1982

DATE	ONSET TIME	DIR	COMMENTS
10/01			Field intermittently active.
	0635	East	
	0920	West	
	1320	West	Slow onset, recovery near 1530 UT.
	1620	West	Slow onset, recovery near 1900 UT.
10/02			Field unsettled all day.
	0900	West	
	1205		Localized SS vicinity Anchorage.
	1310	West	
10/03			Field intermittently unsettled.
	0920		Weak SS.
10/04			Field intermittently unsettled.
	0835	West	
	0950	West	
	1155	West	
	1420	West	
10/05			Field intermittently unsettled.
	0345	East	
10/06			Field unsettled all day.
	1045	West	
	1125		Injection into existing SS.
	1300	West	Slow onset, several injections with recovery near 1630 UT.
10/07			Field intermittently active.
	0125	East	
	0550	Center	Several injections.
	0940	East	
	1535	West	
10/08			Field unsettled.
	0350	East	
	0815	West	Several injections with recovery near 1100 UT.
	1405	West	Several injections with recovery near 1800 UT.
10/09			Field slightly unsettled.
10/10			Field unsettled after 1100 UT.
	1140	West	Weak SS.
10/11			Field intermittently unsettled.
	0545	≃Center	Slow onset, weak SS.
10/12			Field unsettled after 0900 UT.
	1010	West	
10/13	0230	East	Boulder in partial ring current sector.
	0625	East	Weak SS.
	0925		Initial SS onset. Numerous injections follow, field active with recovery near 1800 UT.
10/14			Field intermittently active.
	0230	East	Strong bay, Boulder-Tucson.
	0845	West	Strong SS.
	1145	West	Moderate SS.
10/15			Field slightly unsettled.
	1010		Weak SS.
10/16			Field intermittently unsettled.
	1415	West	Weak SS.
	1520	West	Slow onset.
	1645	West	West SS.
	2125		Polar cap SS.
10/17			Field unsettled all day.
	0210		Bay, H and D components, Boulder-Tucson.
	0305		Bay, H and D components, Boulder-Tucson.
	0925		Weak SS, College to Ft. Yukon.
	1050		Weak SS, Ft. Yukon.
	1125		Weak SS, College to Anchorage.
10/18			Field unsettled all day.
	0355	≃Center	
	0710	West	
	1240	West	Several injections with recovery near 1700 UT.
10/19			Field intermittently unsettled
	0630	West	
	1225		Weak SS.
10/20			Field unsettled through 1500 UT.
	0810	West	
	1130		Localized SS, Ft. Yukon to Anchorage. Several injections with recovery near 1400 UT.
10/21			Field slightly unsettled.
	2030		Positive impulse H-component all mid/low latitude stations.
10/22			Quiet day.
10/23			Field intermittently unsettled.
	0555		Weak SS.
	1525		Slow onset, slow expansion northward through Alaska.
10/24			Field slightly unsettled.
10/25			Field intermittently unsettled.
	0515	East	
	1310	West	
10/26	0030	SSC	Variable temporal and spatial responses in the network through 0800 UT.
	1150		Weak SS Talkeetna to College.
10/27			Field intermittently unsettled.
	0620		Weak SS.
	0940		Weak SS.
	1410	West	
10/28			Field intermittently unsettled.
	0600		Weak SS.
	0940		Initial onset, several injections with recovery near 1400 UT.
10/29			Field at storm level 0500-1600 UT, unsettled balance of the day.
10/30			Field at storm level 0630-1900 UT, unsettled balance of the day.
	0450	East	
10/31			Field intermittently unsettled.
	0500	East	Initial onset, several injections with recovery near 0700 UT.
	1525	West	Weak SS
	1820	West	Moderate SS.
	2040		Polar cap SS.
	2220		Polar cap SS.

SEPTEMBER 1982 DATA

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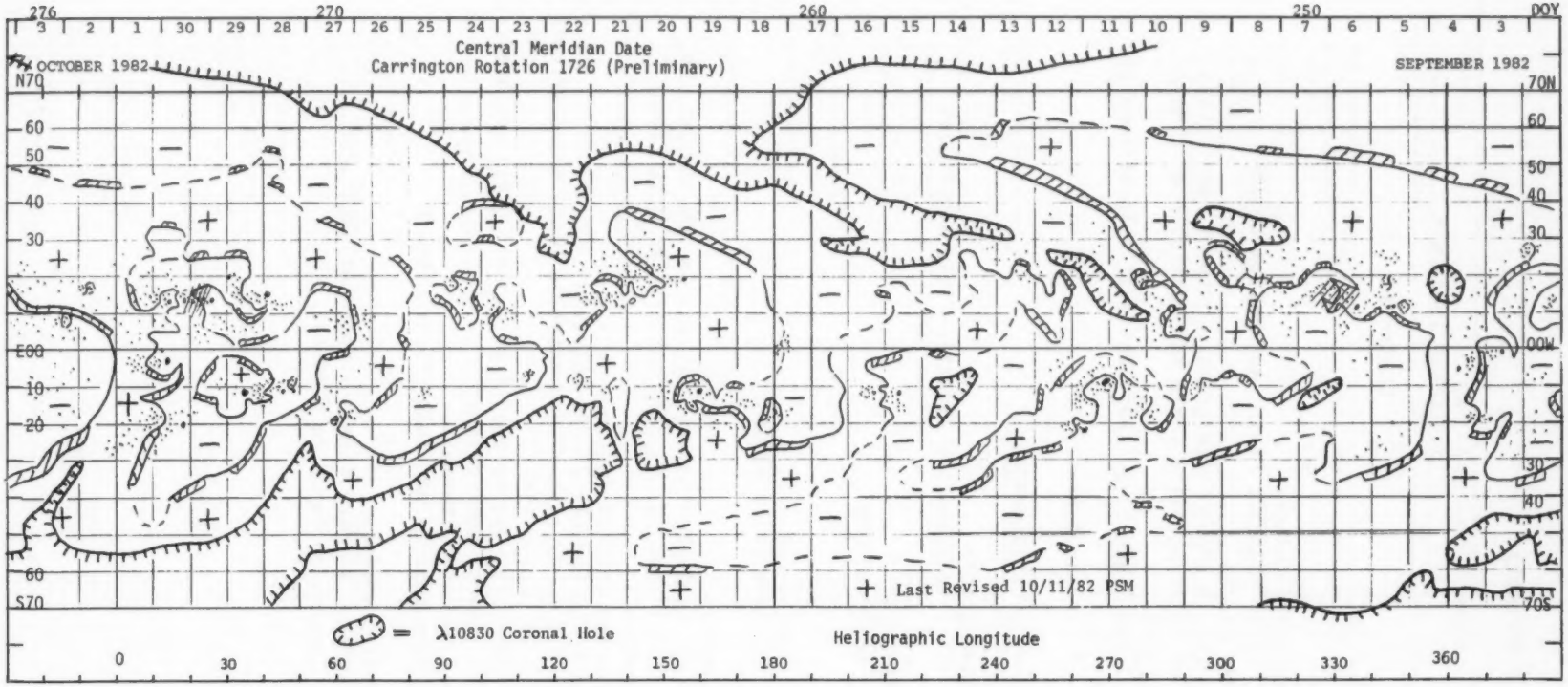
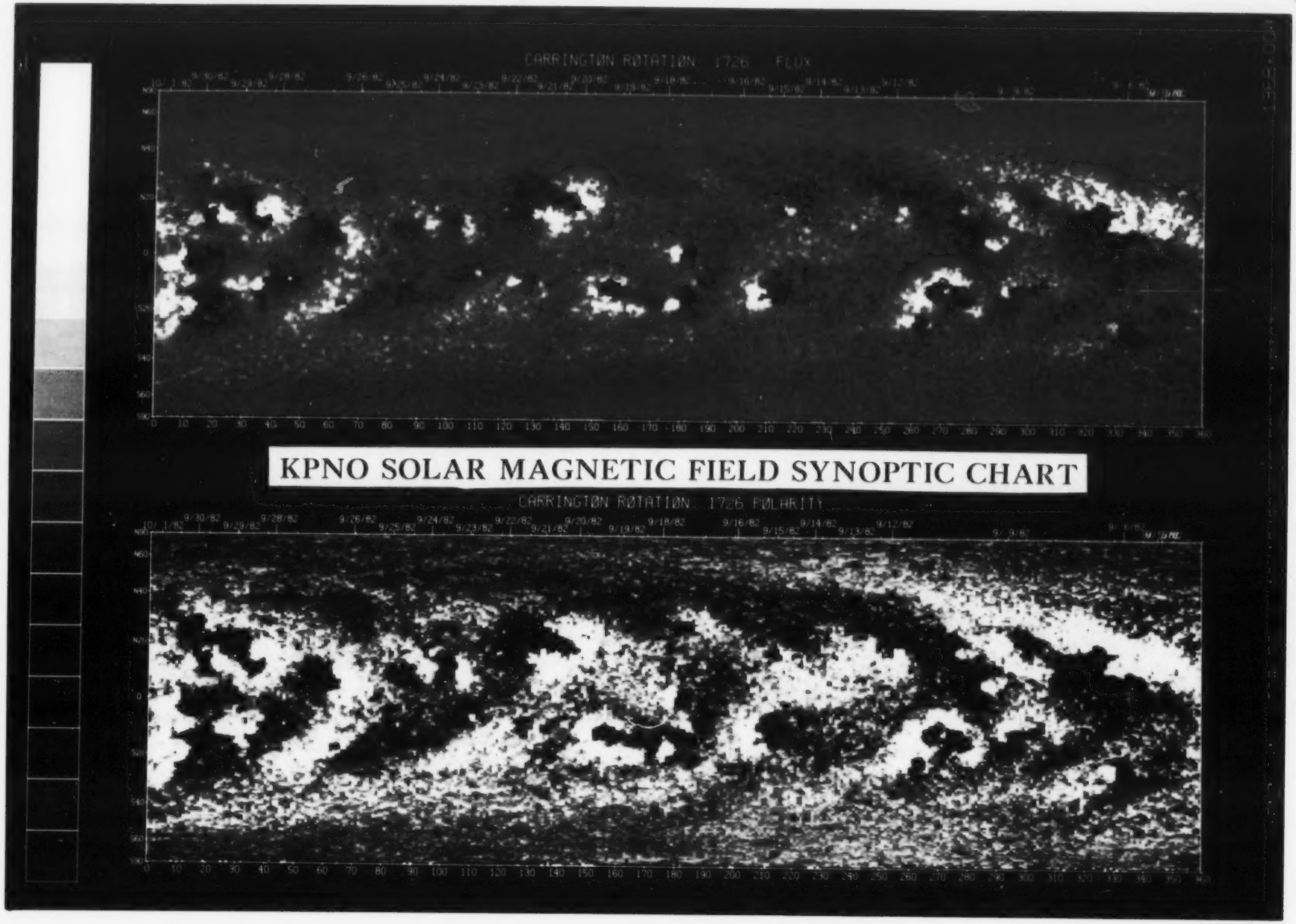
Hα SYNOPTIC CHART

CARRINGTON ROTATION 1726 (PRELIMINARY)

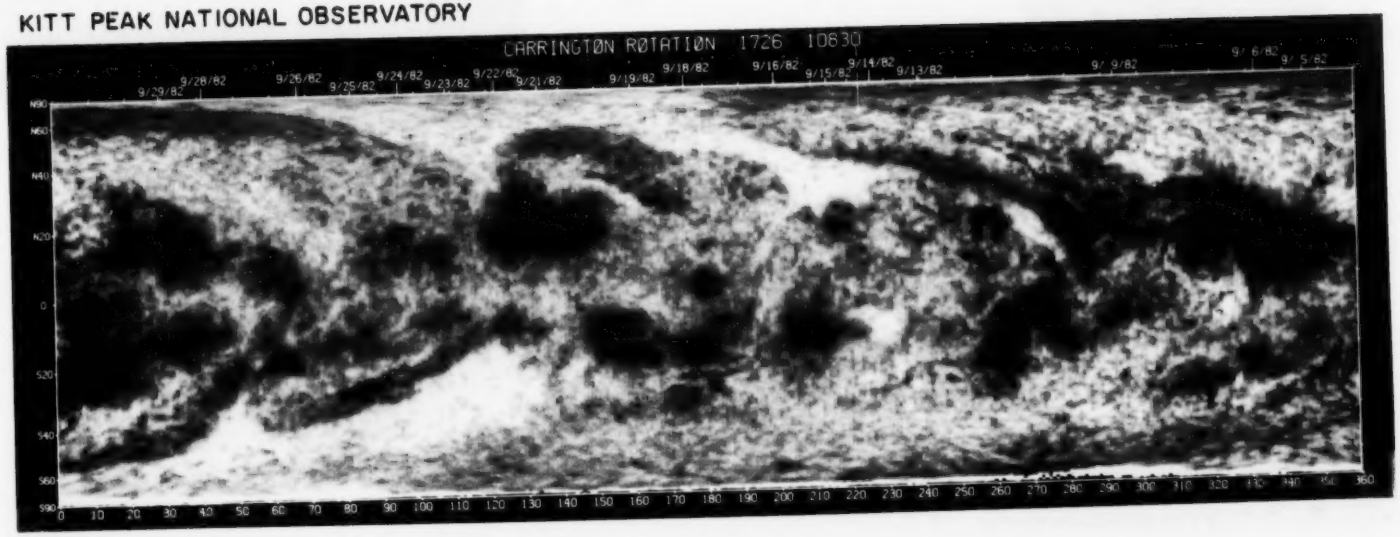




KPNO SOLAR MAGNETIC FIELD SYNOPTIC CHART

HELIUM 10830Å SYNOPTIC MAPS
CARRINGTON ROTATION 1726

KITT PEAK NATIONAL OBSERVATORY



SEPTEMBER 1, 1982 (P= 21.01, B_o= 7.19, L_o= 48.19)

SACRAMENTO PEAK Np CORONA
5303 Å

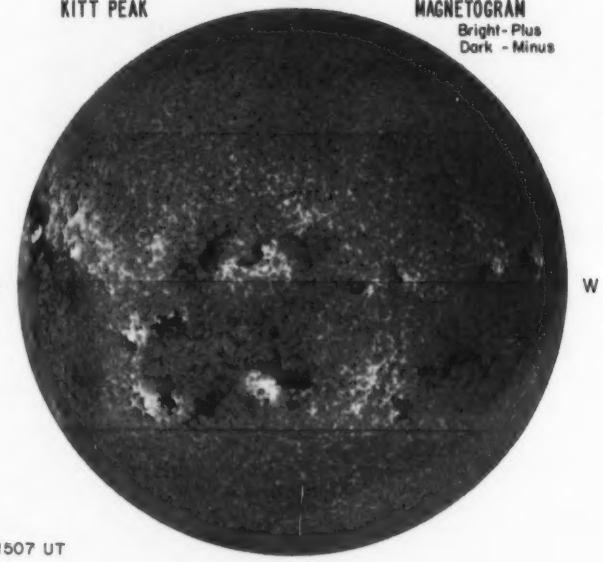
E NO DATA SEPTEMBER 1, 4, 5, 6, 7, 9, 10, 11, 12, 13, 18, 20, 21, 24, 25, 28, 29, 30 W

1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$

Sp

Np

KITT PEAK MAGNETOGRAM
Bright - Plus
Dark - Minus



E W

1507 UT

Sp

MT. WILSON MAGNETOGRAM
Solid - Plus
Dotted - Minus

DELTAY =
DELTAX =

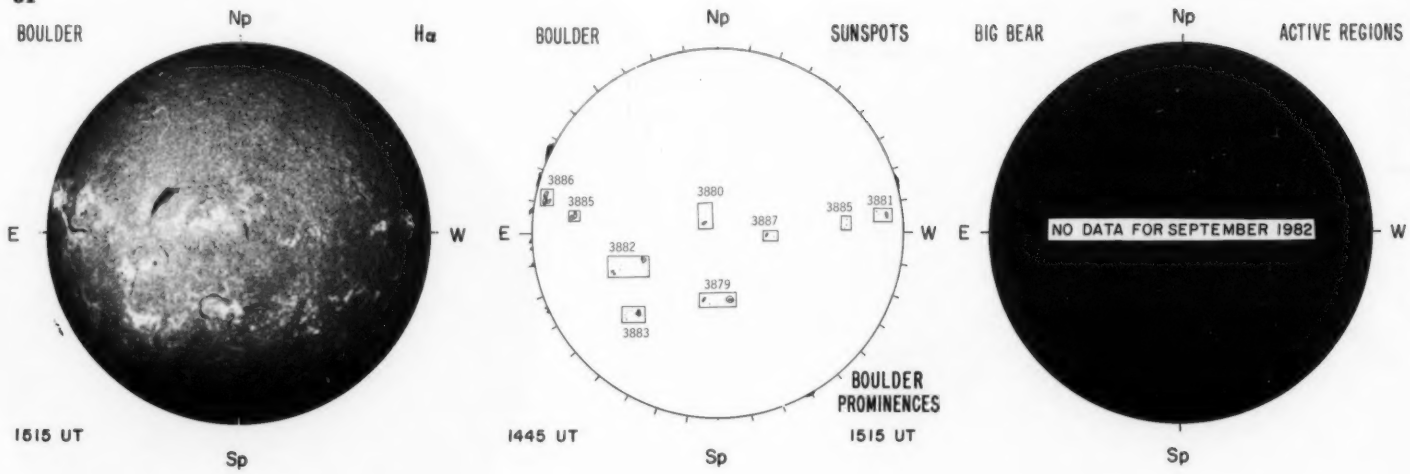
NO DATA SEPTEMBER 1, 5, 6, 8, 9, 15, 16, 17, 18, 19, 20, 23, 24, 25, 26, 27, 29

E W

Levels
± 5
± 10
± 20
± 40
± 80

Sp

01



STANFORD

Np

MAGNETOGRAM
Solid - Plus; zero level
Dashed - Minus

E NO DATA SEPTEMBER 1, 2, 4, 6, 15, 16, 17, 18, 23, 24, 25 W

Levels
0 μT
± 50
± 100
± 200
•
•
•

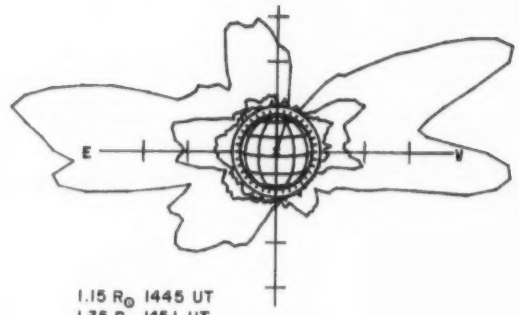
Sp

SEPTEMBER 2, 1982 (P= 21.26, B_o = 7.21, l_{-o} = 34.98)

SACRAMENTO PEAK

Np

CORONA
5303 Å



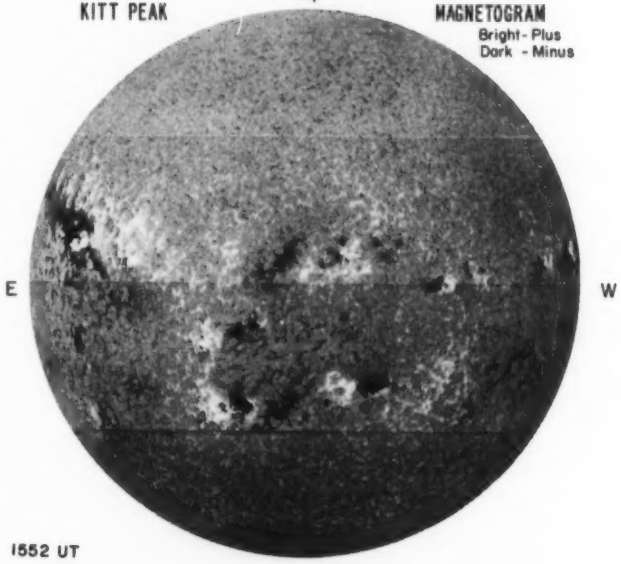
1.15 $R_\odot$ 1445 UT
1.35 $R_\odot$ 1451 UT
1.55 $R_\odot$ 1457 UT

Sp

KITT PEAK

Np

MAGNETOGRAM
Bright - Plus
Dark - Minus



1552 UT

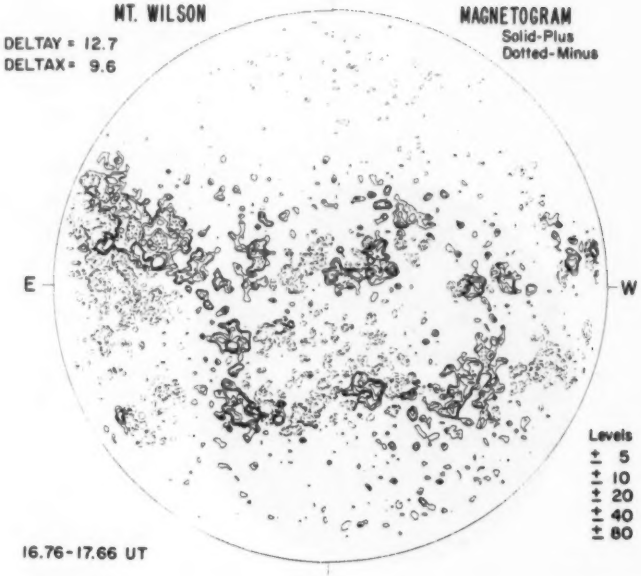
Sp

MT. WILSON

Np

DELTAY = 12.7
DELTAX = 9.6

MAGNETOGRAM
Solid-Plus
Dotted-Minus

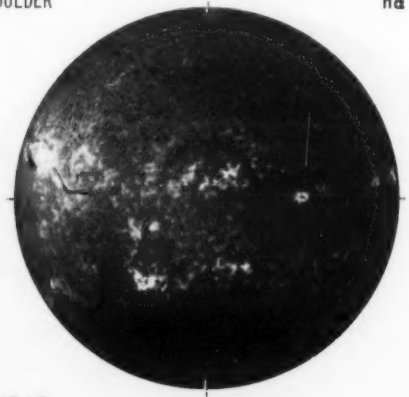


16.76-17.66 UT

Sp

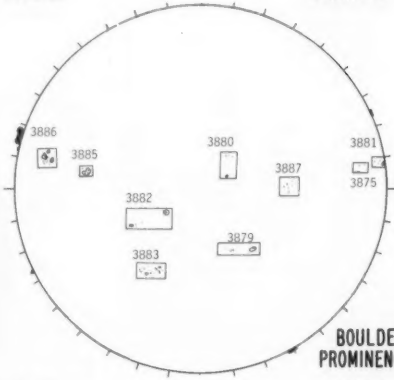
02

BOULDER Np Hα



1445 UT

BOULDER Np SUNSPOTS



1436 UT Sp

BIG BEAR Np ACTIVE REGIONS

1445 UT Sp

STANFORD Np

MAGNETOGRAM
Solid - Plus; zero level
Dashed - Minus

E NO DATA W

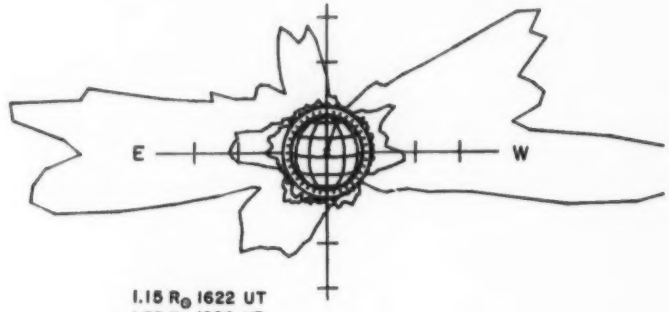
Levels
0 μT
± 50
±100
±200
•
•
•

Sp

47
Sep 82

SEPTEMBER 3, 1982 (P= 21.51, B_o = 7.22, l_{-o} = 21.77)

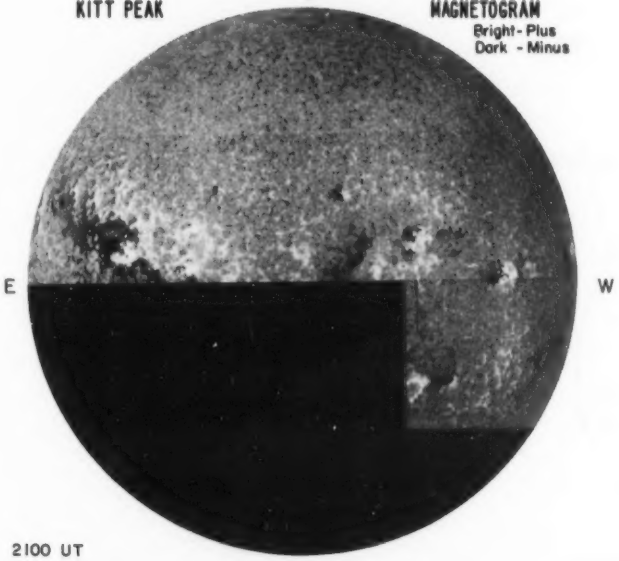
SACRAMENTO PEAK Np CORONA 5303 Å



1.15 $R_\odot$ 1622 UT
1.35 $R_\odot$ 1606 UT
1.55 $R_\odot$ 1613 UT

Sp

KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus

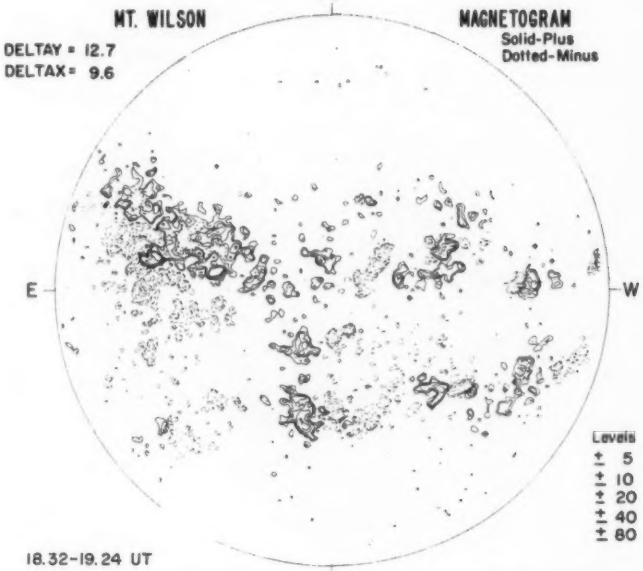


2100 UT

Sp

MT. WILSON Np MAGNETOGRAM
Solid-Plus
Dotted-Minus

DELTAY = 12.7
DELTAX = 9.6

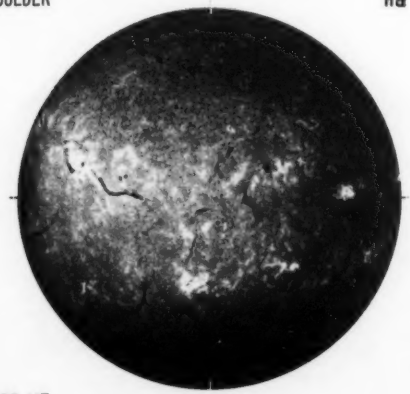


18.32-19.24 UT

Sp

03

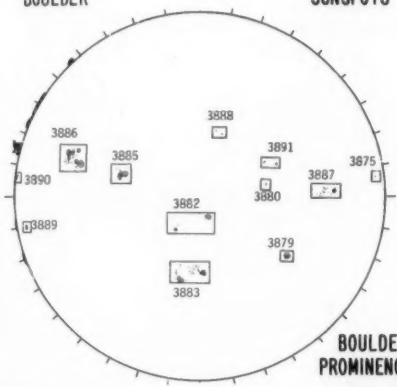
BOULDER Np Hα



E W

1435 UT Sp

BOULDER Np SUNSPOTS BIG BEAR



E W E

1500 UT Sp

Np ACTIVE REGIONS

W

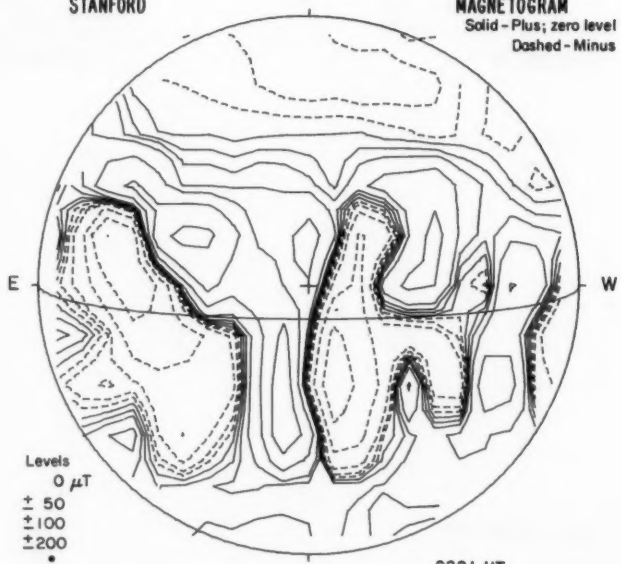
BOULDER PROMINENCES

1435 UT Sp

STANFORD Np MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E W

Levels

0 μT

± 50

±100

±200

• • •

2221 UT Sp

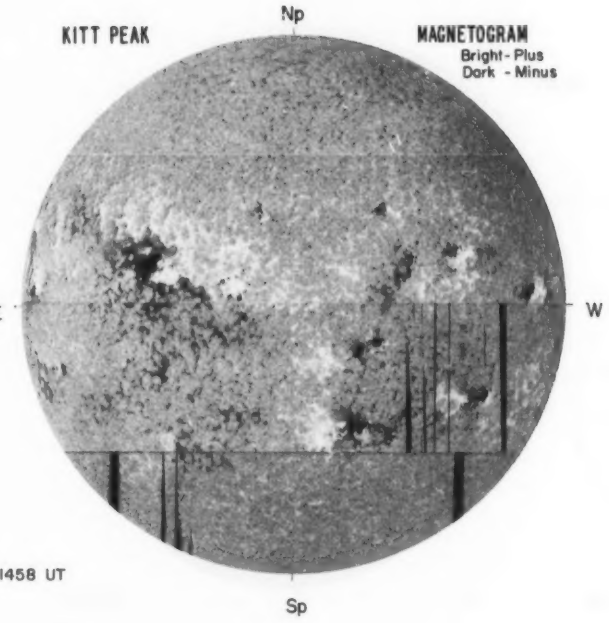
SEPTEMBER 4, 1982 (P= 21.75, B_o= 7.23, L_o= 8.56)

SACRAMENTO PEAK Np CORONA 5303 Å

E NO DATA W

1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$

KITT PEAK

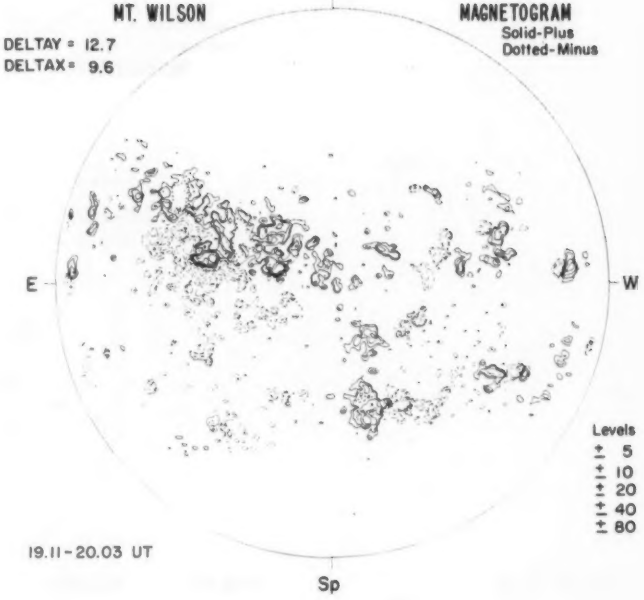


MAGNETOGRAM
Bright - Plus
Dark - Minus

1458 UT

MT. WILSON

DELTAY = 12.7
DELTAX = 9.6



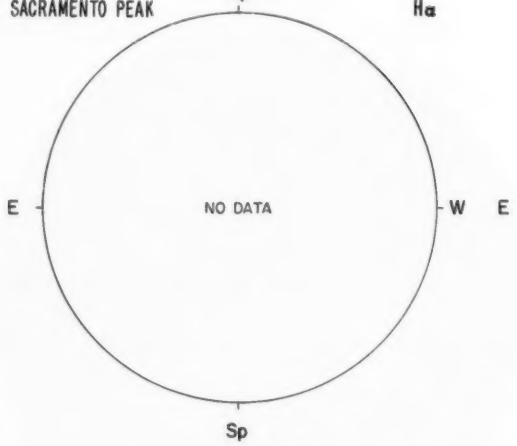
MAGNETOGRAM
Solid - Plus
Dotted - Minus

Levels
5
10
20
40
80

19.11 - 20.03 UT

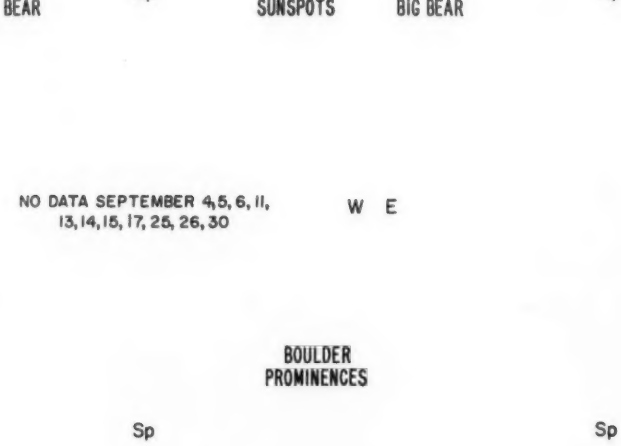
04

SACRAMENTO PEAK



Hα

BIG BEAR



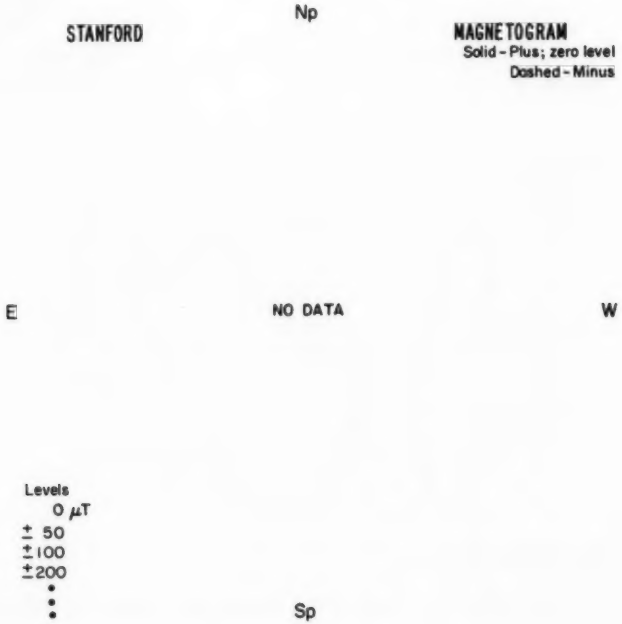
SUNSPOTS

BIG BEAR

ACTIVE REGIONS

BOULDER
PROMINENCES

STANFORD



MAGNETOGRAM
Solid - Plus; zero level
Dashed - Minus

Levels
0 μT
± 50
± 100
± 200

51
Sep 82

SEPTEMBER 5, 1982 (P= 21.99, B_o = 7.24, L_o = 355.35)

SACRAMENTO PEAK Np CORONA 5303 Å

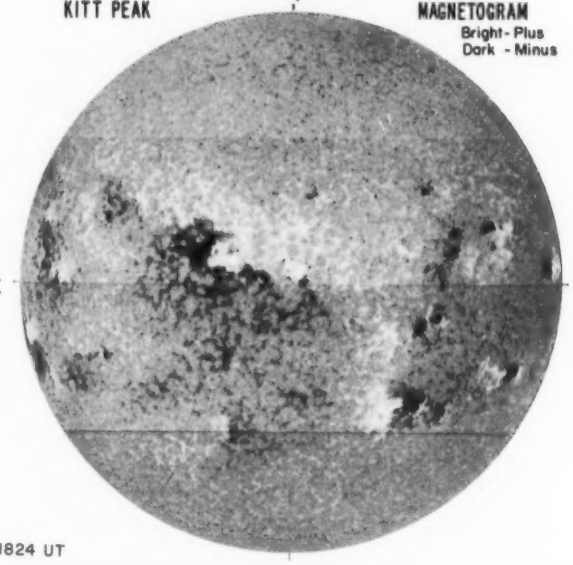
E NO DATA W

1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$

Sp

Np

KITT PEAK MAGNETOGRAM
Bright - Plus
Dark - Minus



E W

1824 UT

Sp

MT. WILSON MAGNETOGRAM
Solid - Plus
Dotted - Minus

DELTAY =
DELTAX =

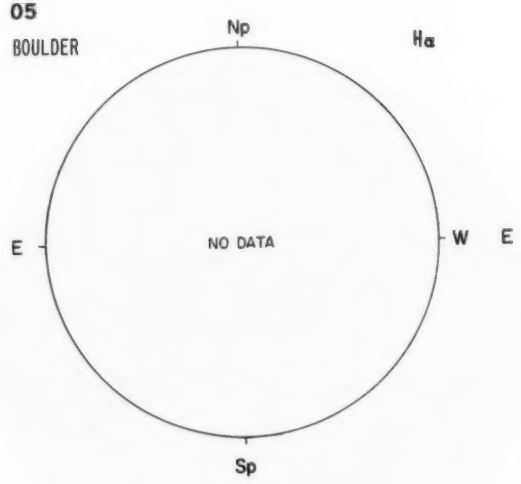
E NO DATA W

Levels
± 5
± ± 10
± ± ± 20
± ± ± ± 40
± ± ± ± ± 80

Sp

05

BOULDER



Hα

BIG BEAR

Np

NO DATA

SUNSPOTS

BIG BEAR

Np

W E

ACTIVE REGIONS

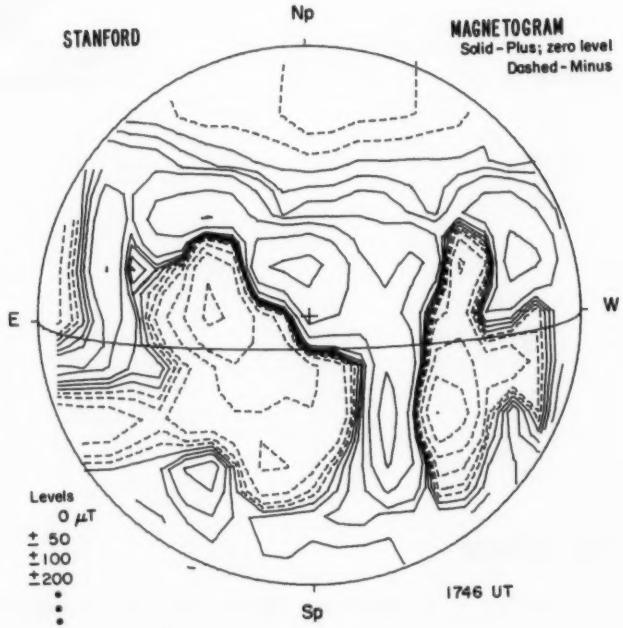
W

BOULDER
PROMINENCES

Sp

Sp

STANFORD



SEPTEMBER 6, 1982 (P= 22.22, B_o = 7.24, L_o = 342.15)

SACRAMENTO PEAK

Np

CORONA
5303 Å

E

NO DATA

W

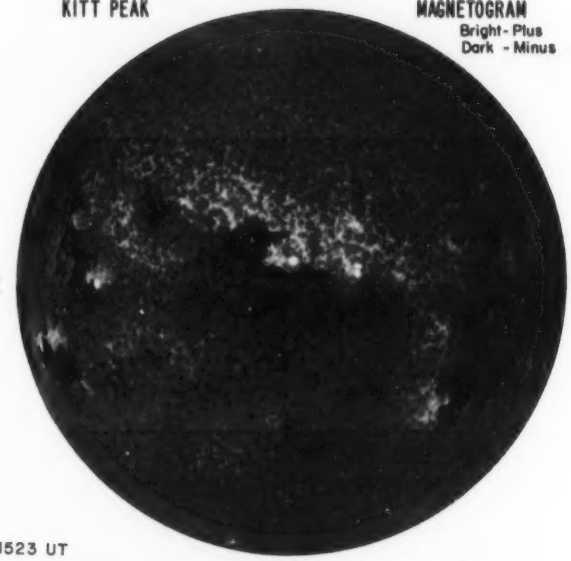
1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$

Sp

Np

KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus



E

W

1523 UT

Sp

MT. WILSON

DELTAY =
DELTAX =

MAGNETOGRAM
Solid-Plus
Dotted-Minus

E

NO DATA

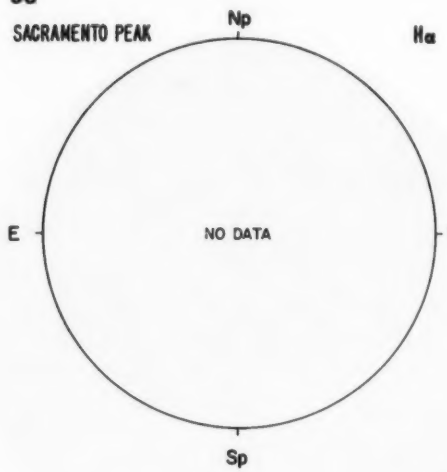
W

Levels
± 5
± ± 10
± ± 20
± ± 40
± ± 80

Sp

06

SACRAMENTO PEAK



Hα

BIG BEAR

Np

E NO DATA W E

Sp

SUNSPOTS

BIG BEAR

Np

W E

BOULDER
PROMINENCES

Sp

ACTIVE REGIONS

Np

W

Sp

STANFORD

Np

E NO DATA W

Sp

MAGNETOGRAM
Solid - Plus; zero level
Dashed - Minus

Levels
0 μT
± 50
±100
±200
•
•
•

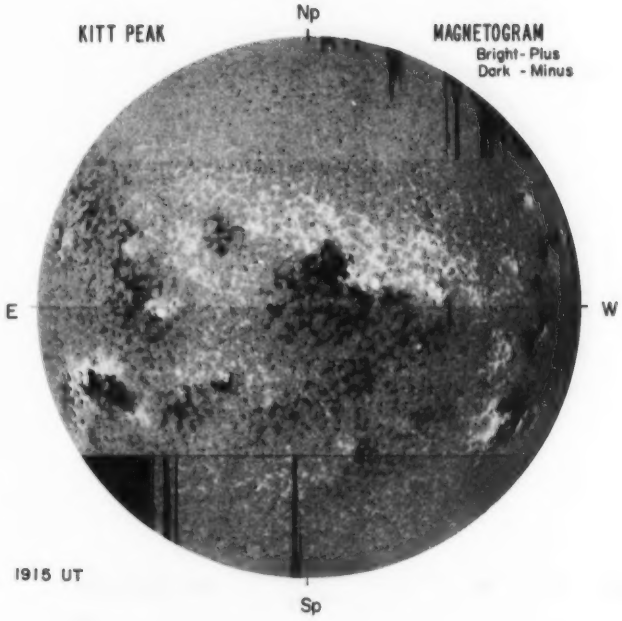
55
Sep 82

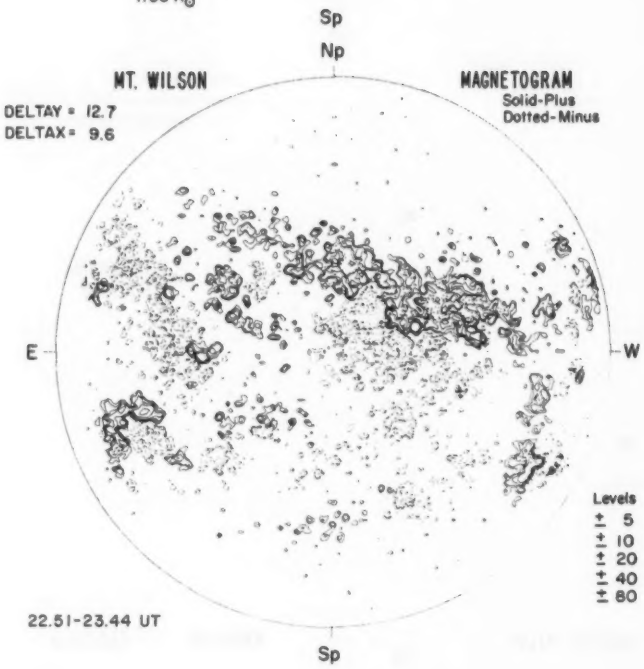
SEPTEMBER 7, 1982 (P= 22.44, B_o = 7.25, L_o = 328.94)

SACRAMENTO PEAK Np CORONA 5303 Å

E NO DATA W

1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$





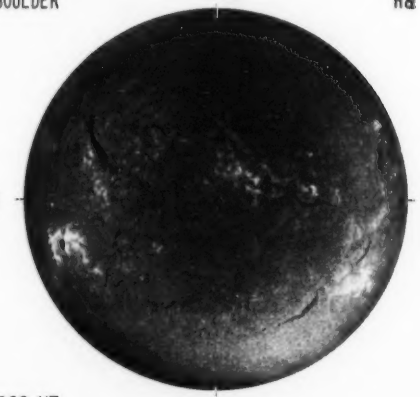
Sp

07

BOULDER

Np

Hα



E

W

1900 UT

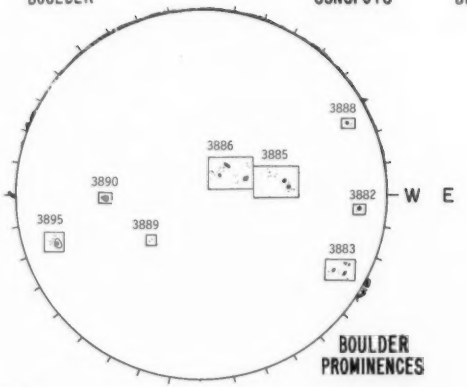
Sp

BOULDER

Np

SUNSPOTS

BIG BEAR



E

W

E

BOULDER PROMINENCES

1700 UT

1900 UT

Sp

Np

ACTIVE REGIONS

W

Sp

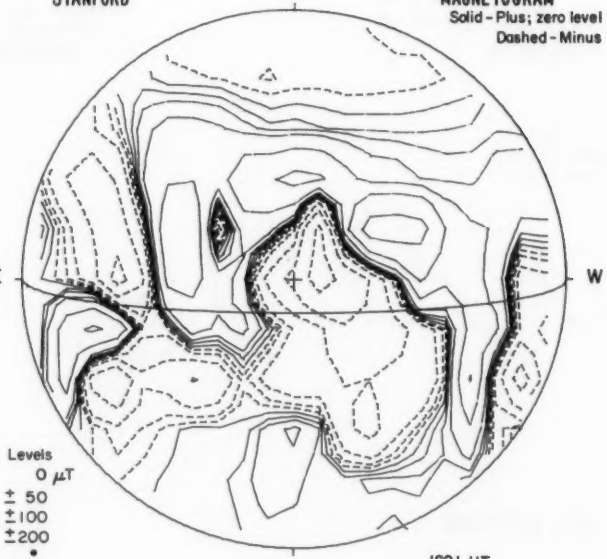
STANFORD

Np

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E

W

Levels

0 μT

± 50

±100

±200

•

•

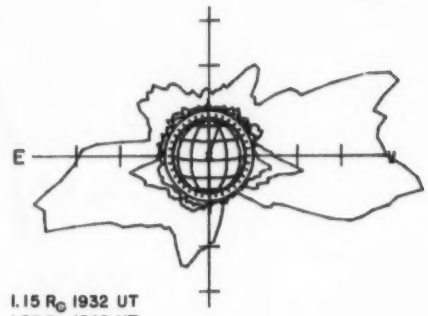
•

Sp

1821 UT

SEPTEMBER 8, 1982 (P= 22.66, B_o = 7.25, L_o = 315.73)

SACRAMENTO PEAK Np CORONA 5303 Å



1.15 $R_\odot$ 1932 UT
1.35 $R_\odot$ 1849 UT
1.55 $R_\odot$ 1901 UT

Sp

Np

KITT PEAK Np MAGNETOGRAM Bright-Plus Dark - Minus

NO DATA SEPTEMBER 8, 17, 27

E W

Sp

MT. WILSON MAGNETOGRAM Solid-Plus Dotted-Minus

DELTAY =
DELTAX =

NO DATA

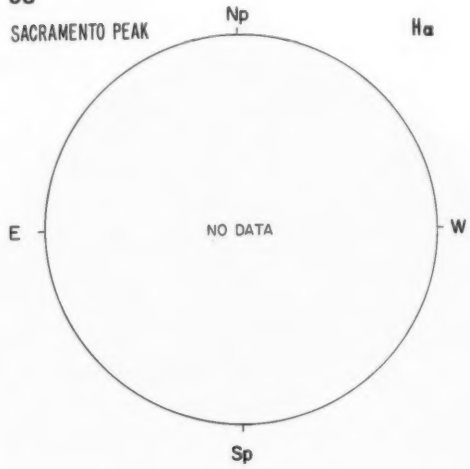
E W

Sp

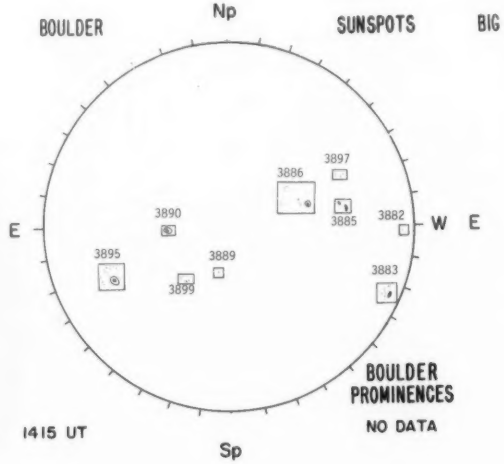
Levels
± 5
± 10
± 20
± 40
± 80

08

SACRAMENTO PEAK

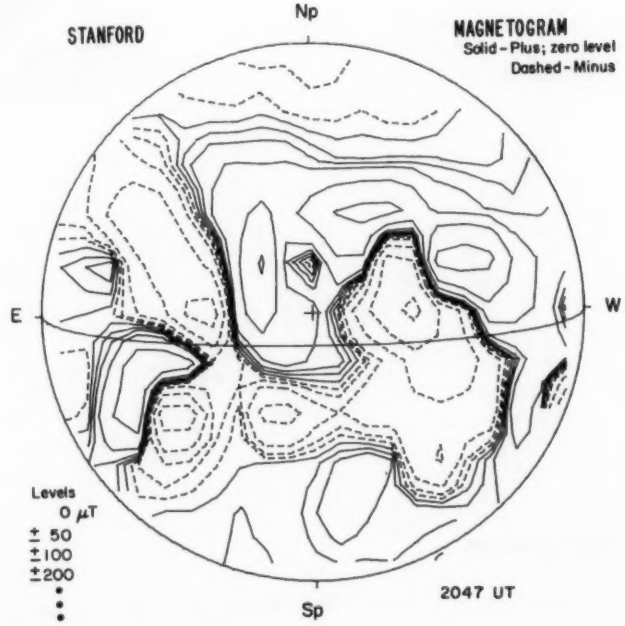


BOULDER



BIG BEAR

STANFORD



SEPTEMBER 9,, 1982 (P= 22.88, B_o= 7.25, L_o= 302.53)

SACRAMENTO PEAK Np CORONA
5303 Å

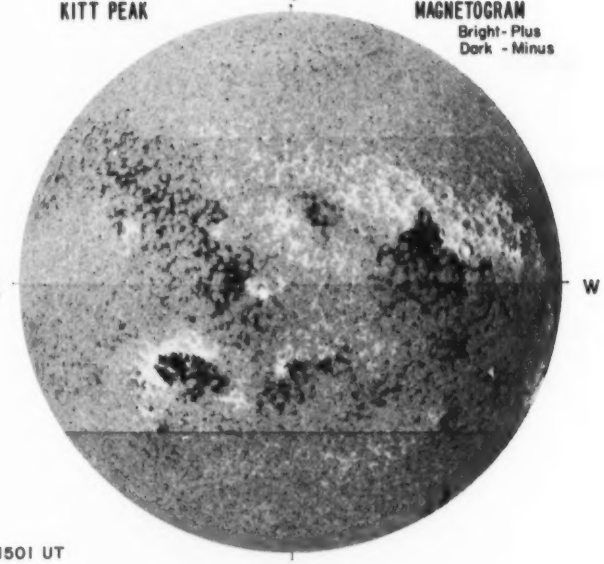
E NO DATA W

1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$

Sp

Np

KITT PEAK MAGNETOGRAM
Bright - Plus
Dark - Minus



1501 UT

MT. WILSON MAGNETOGRAM
Solid-Plus
Dotted-Minus

DELTAY =
DELTAX =

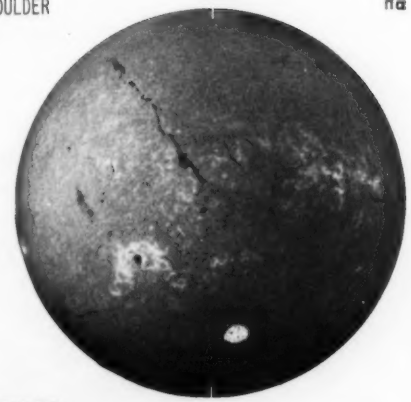
E NO DATA W

Levels
± 5
± 10
± 20
± 40
± 80

Sp

09

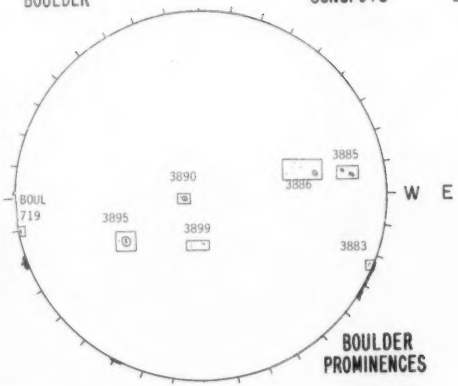
BOULDER Np Hα



E W

2015 UT Sp

BOULDER Np SUNSPOTS BIG BEAR



E W

1530 UT Sp

BOULDER PROMINENCES

2015 UT

Np ACTIVE REGIONS

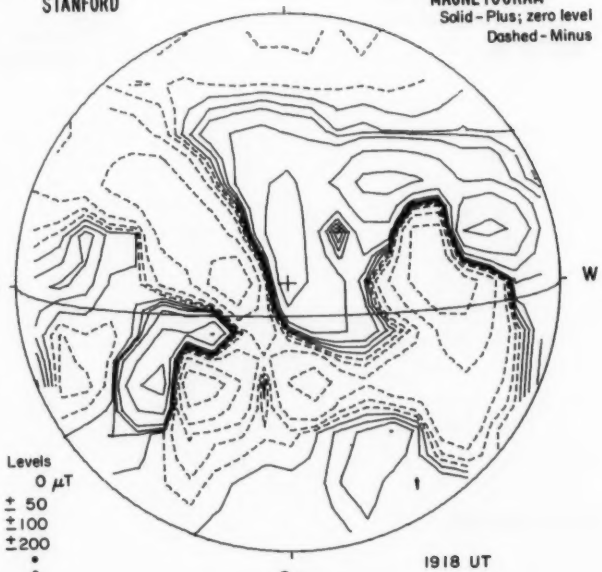
W

Sp

STANFORD Np MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E W

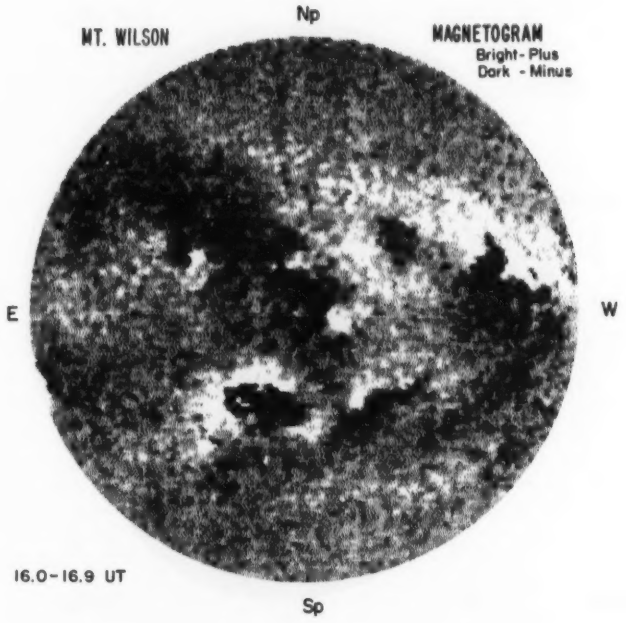
Sp 1918 UT

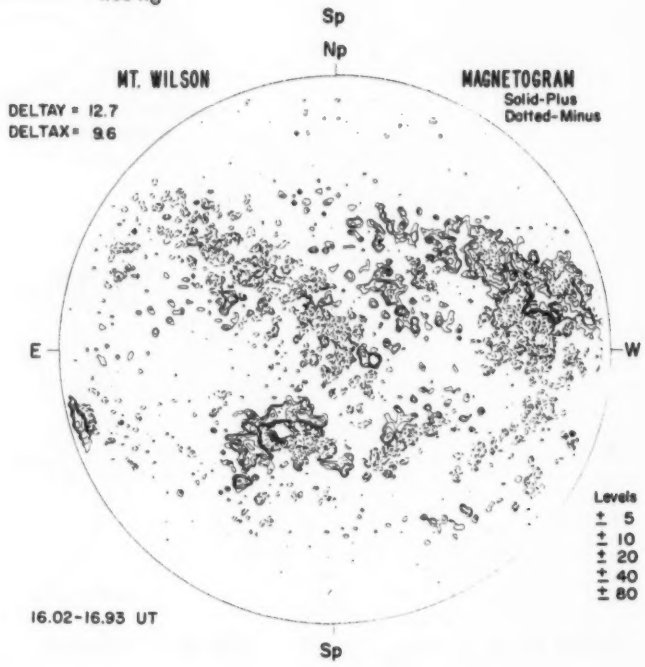
SEPTEMBER 10, 1982 (P= 23.08, B_o= 7.25, L_o= 289.32)

SACRAMENTO PEAK Np CORONA
5303 Å

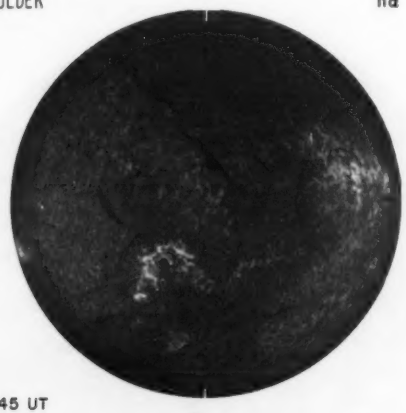
E NO DATA W

1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$



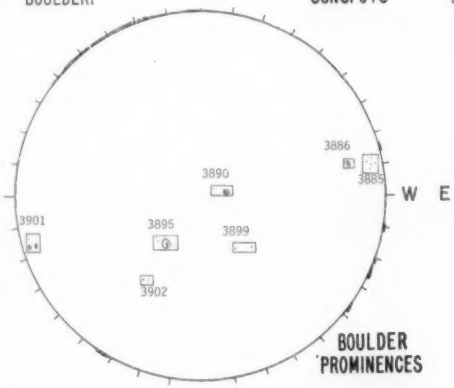


BOULDER Hα



1445 UT

BOULDER SUNSPOTS BIG BEAR



1414 UT

BOULDER PROMINENCES

1445 UT

Sp

Np

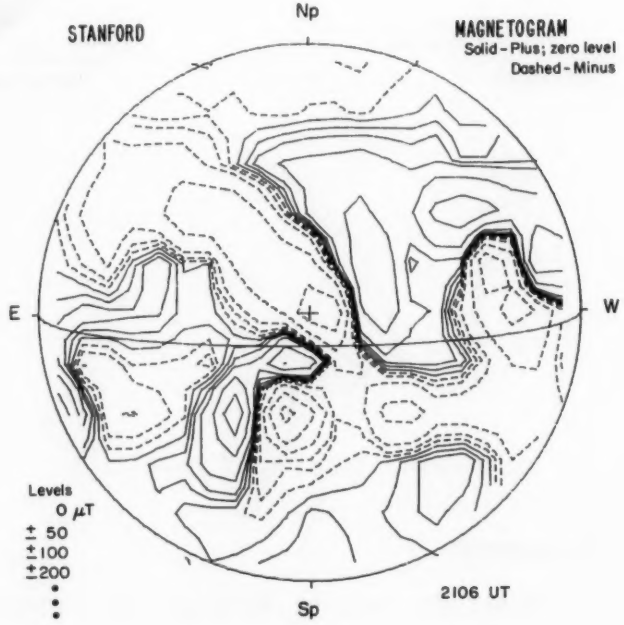
ACTIVE REGIONS

W

Sp

STANFORD MAGNETOGRAM

Solid - Plus; zero level
Dashed - Minus



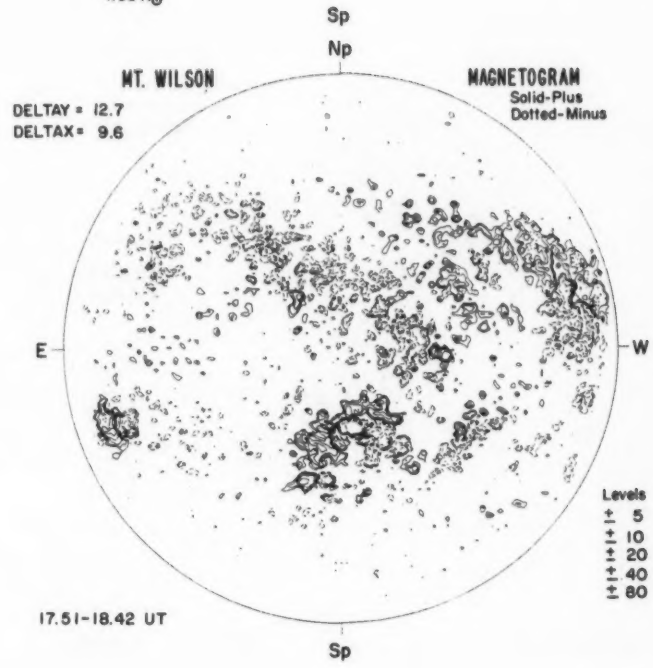
2106 UT

SEPTEMBER 11, 1982 (P= 23.29, B_o= 7.24, L_o= 276.12)

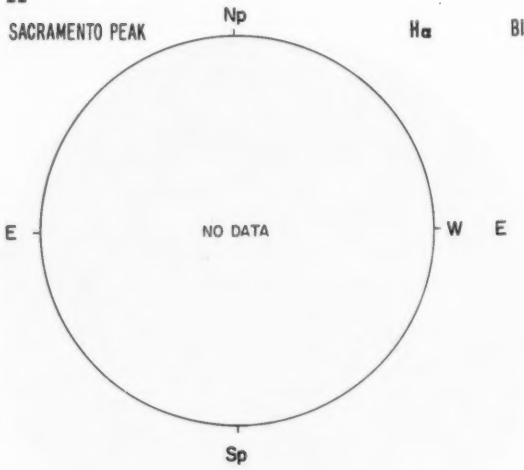
SACRAMENTO PEAK Np CORONA
5303 Å

E NO DATA W

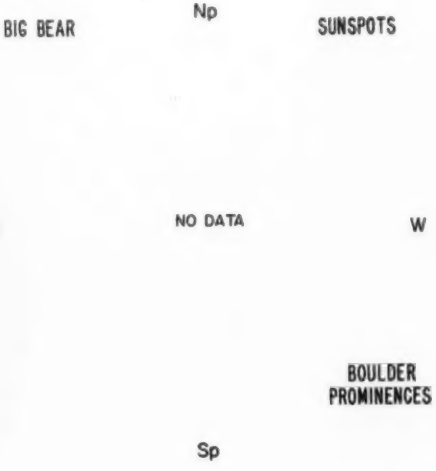
1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$



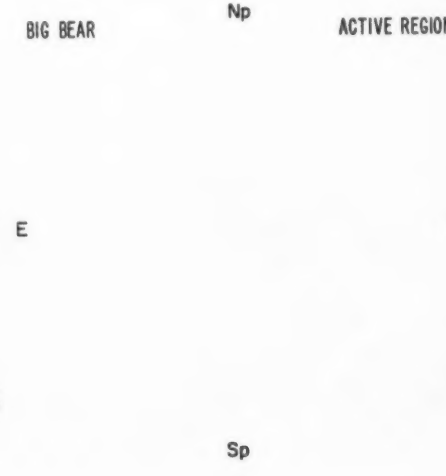
SACRAMENTO PEAK Hα



BIG BEAR Hα



SUNSPOTS BIG BEAR

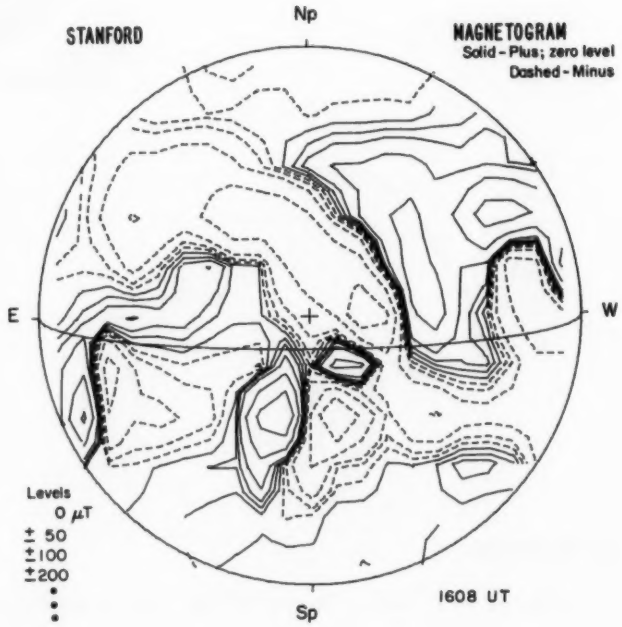


ACTIVE REGIONS

BOULDER PROMINENCES

STANFORD MAGNETOGRAM

Solid - Plus; zero level
Dashed - Minus



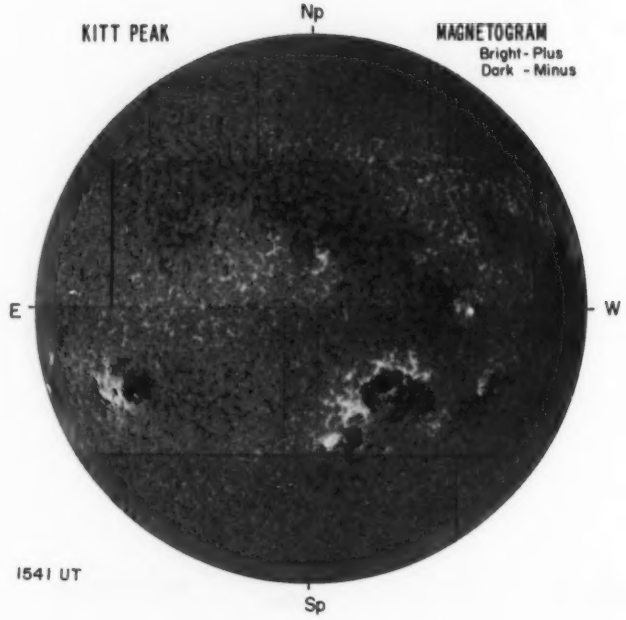
SEPTEMBER 12, 1982 (P= 23.48, B_o= 7.24, L_o= 262.91)

SACRAMENTO PEAK Np CORONA 5303 Å

E NO DATA W

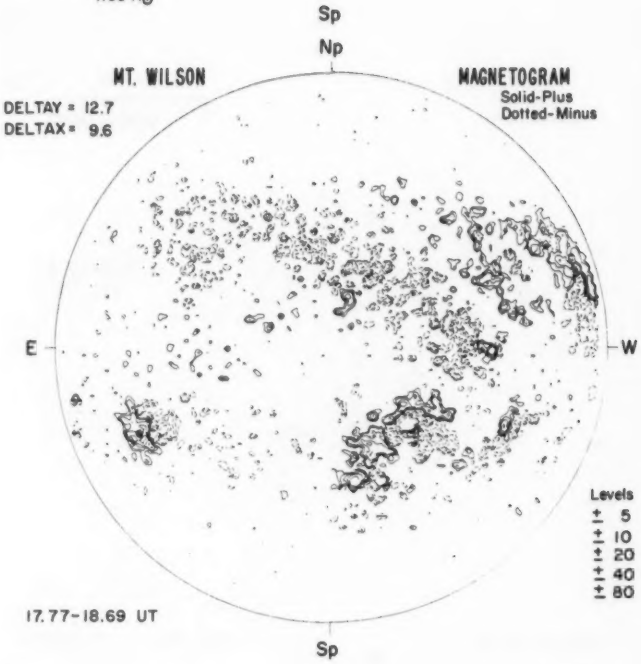
1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$

KITT PEAK MAGNETOGRAM
Bright - Plus
Dark - Minus



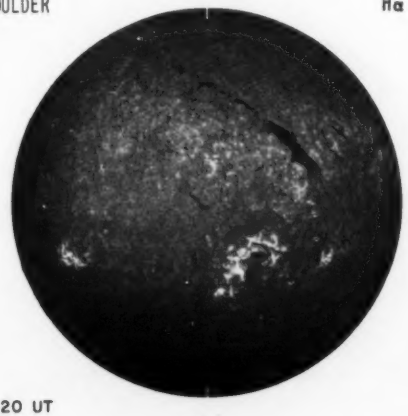
1541 UT

MT. WILSON MAGNETOGRAM
Solid-Plus
Dotted-Minus
DELTAY = 12.7
DELTAX = 9.6



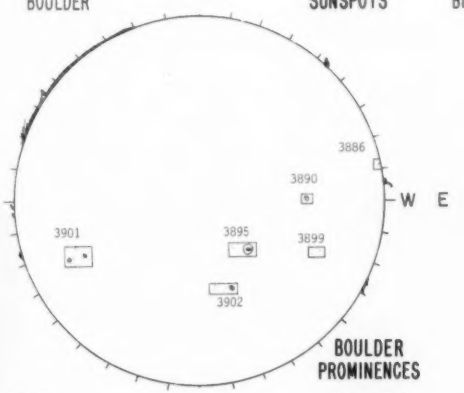
17.77-18.69 UT

BOULDER Hα



1420 UT

BOULDER SUNSPOTS BIG BEAR



BOULDER PROMINENCES

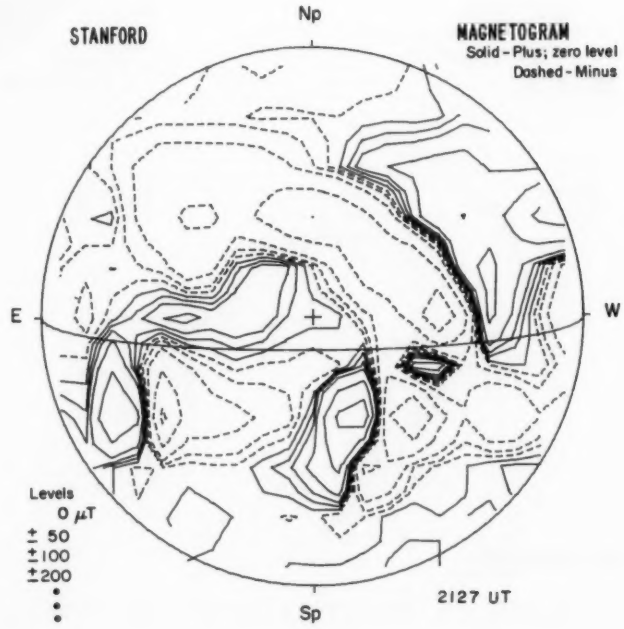
1434 UT 1420 UT

Sp

ACTIVE REGIONS

STANFORD MAGNETOGRAM

Solid - Plus; zero level
Dashed - Minus



2127 UT

67
Sep 82

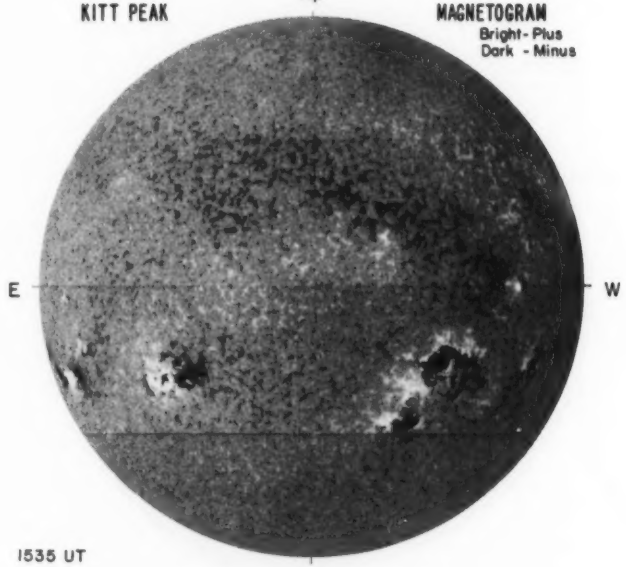
SEPTEMBER 13, 1982 (P= 23.67, B_o= 7.23, L_o= 249.71)

SACRAMENTO PEAK Np CORONA
5303 Å

E NO DATA W

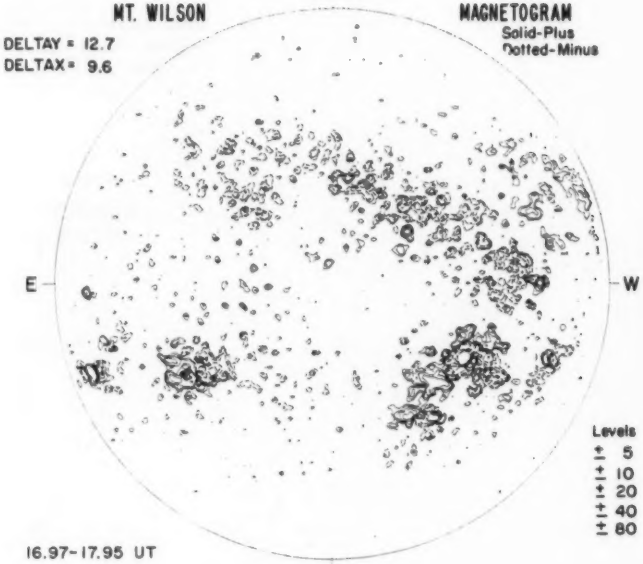
1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$

KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus



1535 UT

Sp Np MT. WILSON MAGNETOGRAM
Solid-Plus
Dotted-Minus
DELTAY = 12.7
DELTAX = 9.6



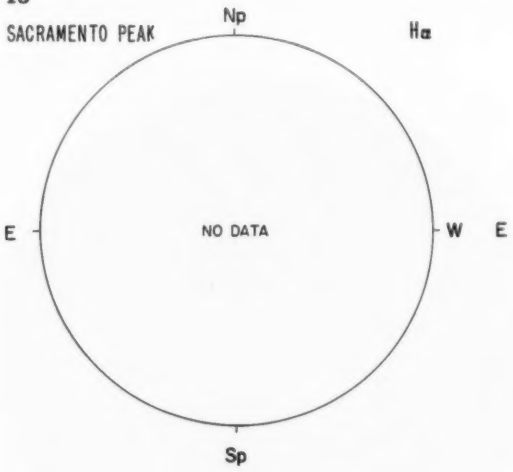
16.97-17.95 UT

13

SACRAMENTO PEAK Np Hα BIG BEAR Np SUNSPOTS BIG BEAR Np ACTIVE REGIONS

13

SACRAMENTO PEAK Hα



BIG BEAR Np

NO DATA

SUNSPOTS BIG BEAR Np

W E

ACTIVE REGIONS Np

W

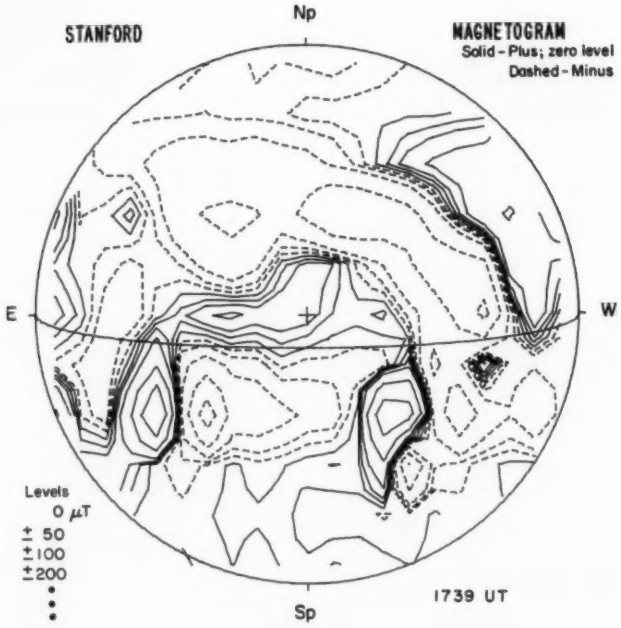
BOULDER PROMINENCES Sp

Sp

STANFORD MAGNETOGRAM

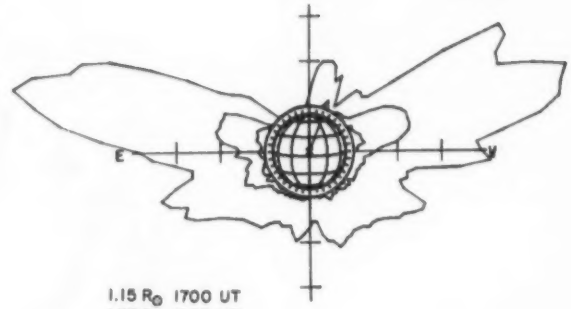
Solid - Plus; zero level

Dashed - Minus



SEPTEMBER 14, 1982 (P= 23.85, B_o= 7.22, L_o= 236.51)

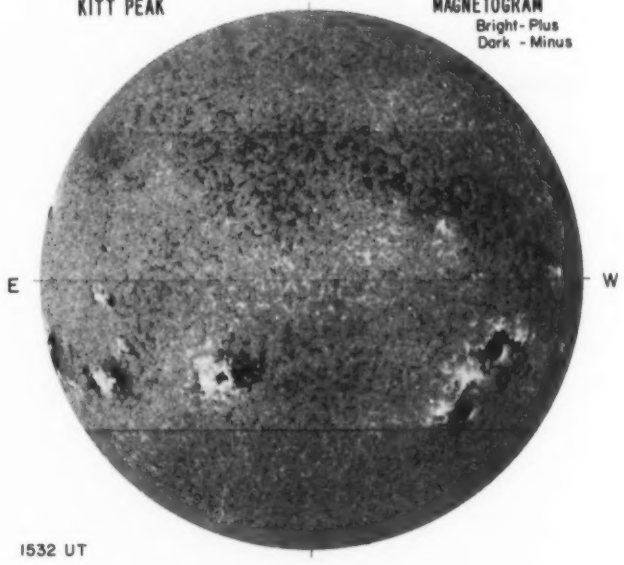
SACRAMENTO PEAK Np CORONA 5303 Å



1.15 $R_\odot$ 1700 UT
1.35 $R_\odot$ 1705 UT
1.55 $R_\odot$ 1713 UT

Sp

KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus



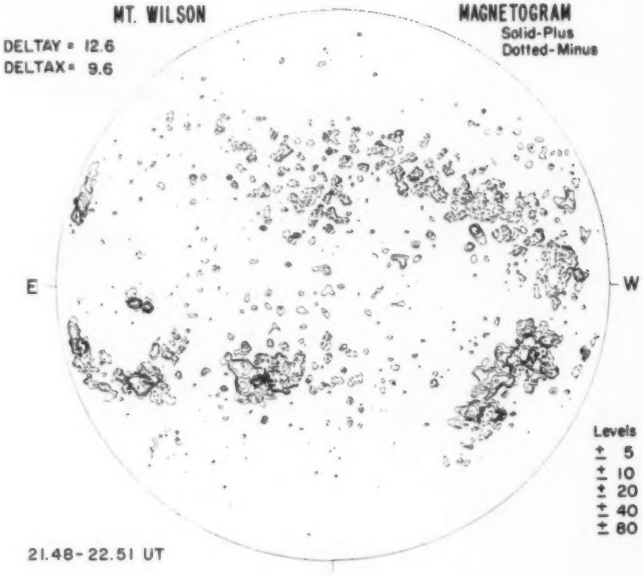
1532 UT

Sp

Np

MT. WILSON MAGNETOGRAM
Solid - Plus
Dotted - Minus

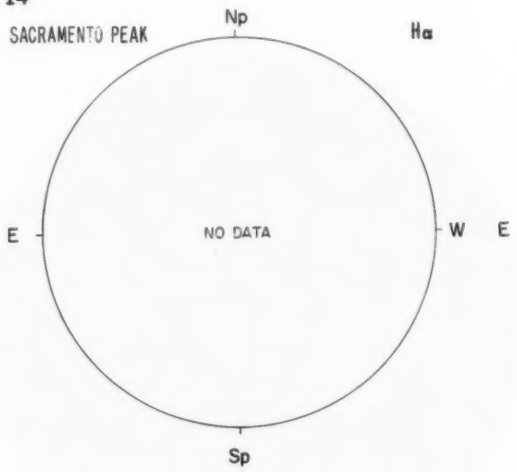
DELTAY = 12.6
DELTAX = 9.6



21.48 - 22.51 UT

Sp

SACRAMENTO PEAK Hα



BIG BEAR

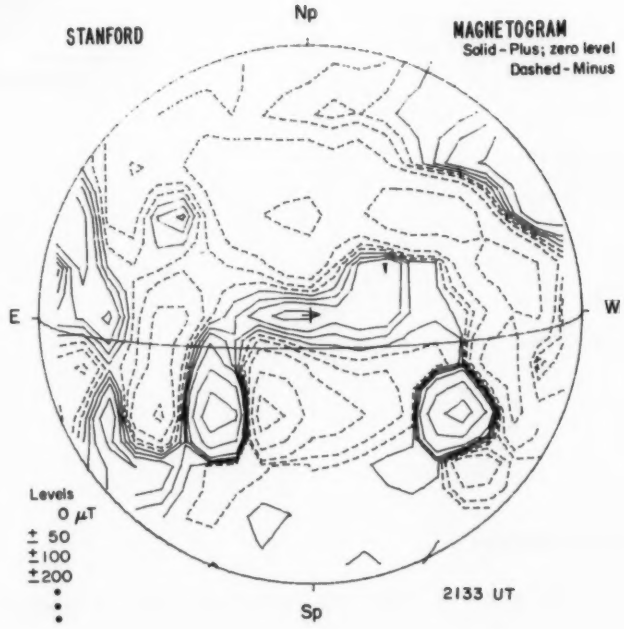
SUNSPOTS

BIG BEAR

ACTIVE REGIONS

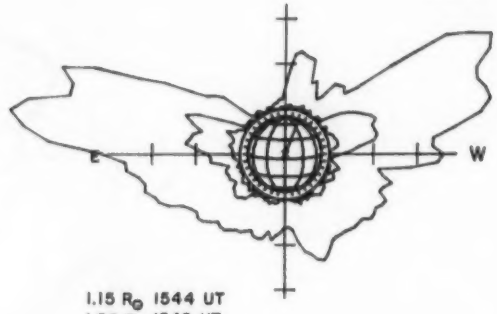
BOULDER
PROMINENCES

STANFORD



SEPTEMBER 15, 1982 (P= 24.03, B_o= 7.21, L_o= 223.31)

SACRAMENTO PEAK Np CORONA 5303 Å

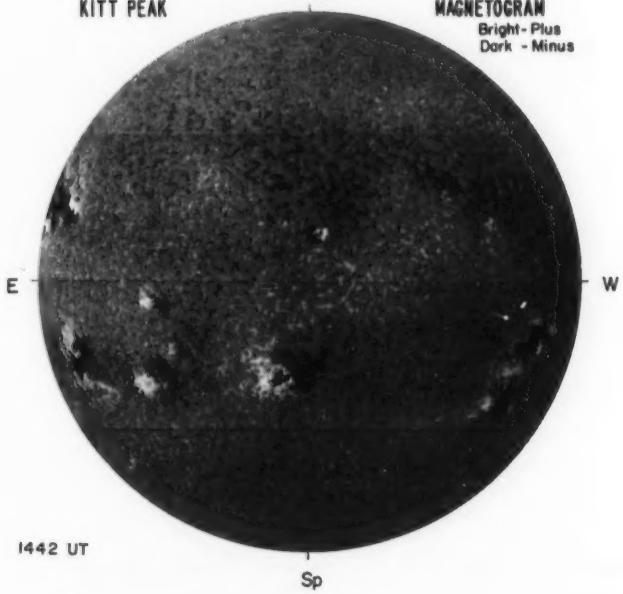


1.15 $R_\odot$ 1544 UT
1.35 $R_\odot$ 1549 UT
1.55 $R_\odot$ 1556 UT

Sp

Np

KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus



1442 UT

Sp

MT. WILSON MAGNETOGRAM
Solid - Plus
Dotted - Minus

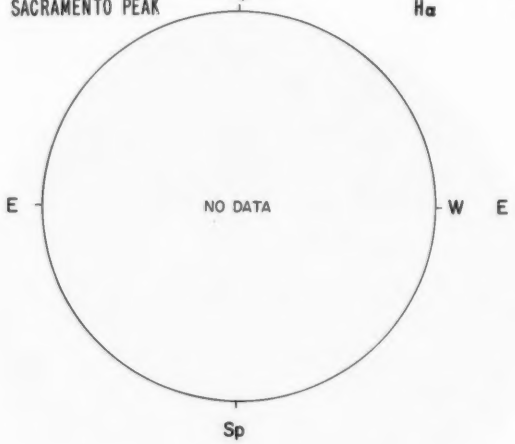
DELTAY =
DELTAX =

E NO DATA W

Levels
± 5
± 10
± 20
± 40
± 80

Sp

SACRAMENTO PEAK Hα



BIG BEAR

Np E NO DATA W Sp

SUNSPOTS

BIG BEAR

Np W E NO DATA Sp

ACTIVE REGIONS

Np NO DATA W Sp

BOULDER
PROMINENCES

STANFORD

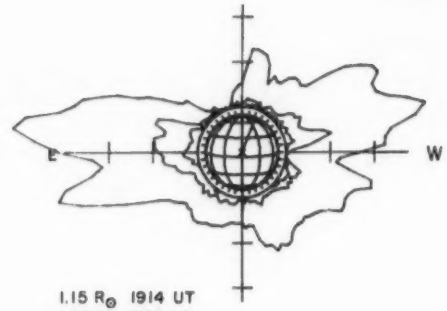
Np E NO DATA W Sp

MAGNETOGRAM
Solid - Plus; zero level
Dashed - Minus

Levels
0 μT
± 50
± 100
± 200
• • •

SEPTEMBER 16, 1982 (P= 24.20, B_o= 7.19, L_o= 210.10)

SACRAMENTO PEAK Np CORONA 5303 Å

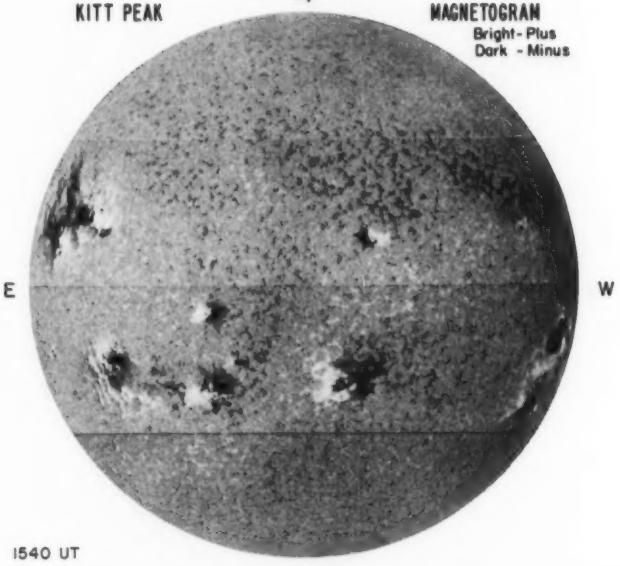


1.15 $R_\odot$ 1914 UT
1.35 $R_\odot$ 1924 UT
1.55 $R_\odot$ 1935 UT

Sp

Np

KITT PEAK MAGNETOGRAM
Bright - Plus
Dark - Minus



1540 UT

Sp

MT. WILSON MAGNETOGRAM
Solid - Plus
Dotted - Minus

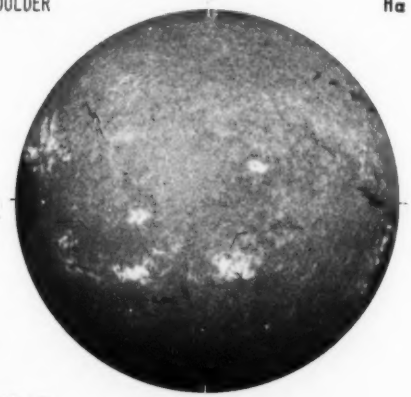
DELTAY =
DELTAX =

E NO DATA W

Levels
± 5
± 10
± 20
± 40
± 80

Sp

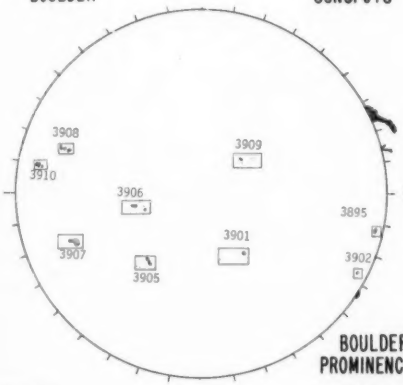
BOULDER Np Hα



E W

1607 UT Sp

BOULDER Np SUNSPOTS



E W

1457 UT Sp

BOULDER PROMINENCES

1607 UT

BIG BEAR Np

NO DATA

E W

Sp

ACTIVE REGIONS

STANFORD Np

MAGNETOGRAM
Solid - Plus; zero level
Dashed - Minus

E NO DATA W

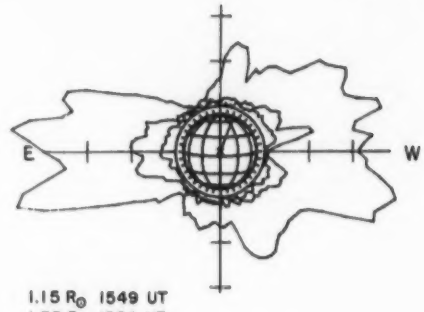
Levels
0 μT
± 50
±100
±200
•
•
•

Sp

75
Sep 82

SEPTEMBER 17, 1982 (P= 24.37, B_o= 7.17, L_o= 196.90)

SACRAMENTO PEAK Np CORONA 5303 Å



1.15 $R_\odot$ 1549 UT
1.35 $R_\odot$ 1554 UT
1.55 $R_\odot$ 1601 UT

Sp

Np

KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus

E NO DATA W

Sp

MT. WILSON

DELTAY =
DELTAX =

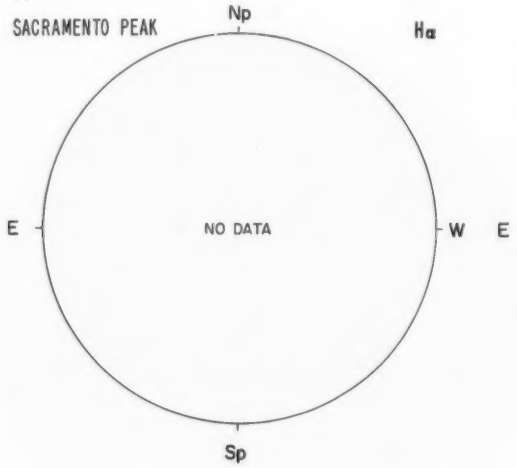
MAGNETOGRAM
Solid - Plus
Dotted - Minus

E NO DATA W

Levels
± 5
± ± 10
± ± ± 20
± ± ± ± 40
± ± ± ± ± 80

Sp

SACRAMENTO PEAK



Hα

BIG BEAR

Np

E W E

NO DATA

Sp

SUNSPOTS

BIG BEAR

Np

W E

NO DATA

Sp

ACTIVE REGIONS

W

BOULDER
PROMINENCES

STANFORD

Np

E

NO DATA

W

Sp

MAGNETOGRAM
Solid - Plus; zero level
Dashed - Minus

Levels
0 μT
± 50
±100
±200
•
•
•

SEPTEMBER 18, 1982 (P= 24.52, B_o= 7.16, L_o= 183.70)

SACRAMENTO PEAK Np CORONA 5303 Å

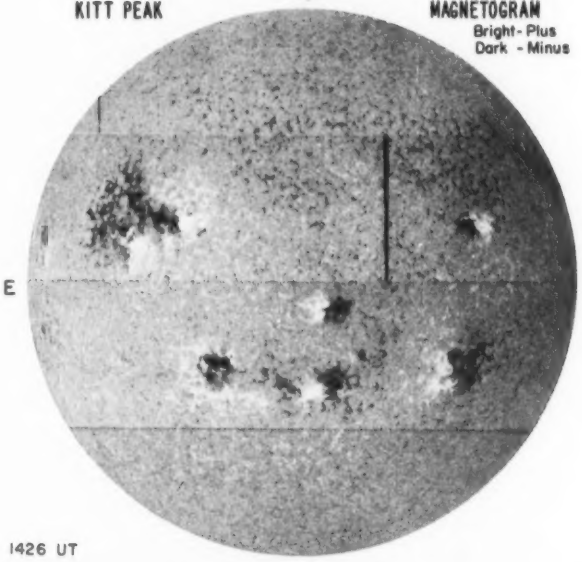
E NO DATA W

1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$

Sp

Np

KITT PEAK MAGNETOGRAM
Bright - Plus
Dark - Minus



E W

1426 UT

Sp

MT. WILSON MAGNETOGRAM
Solid-Plus
Dotted-Minus

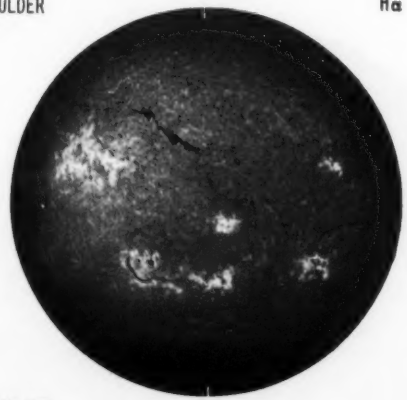
DELTAY =
DELTAX =

E NO DATA W

Levels
1+ 5
1+1+ 10
1+1+1+ 20
1+1+1+1+ 40
1+1+1+1+1+ 80

Sp

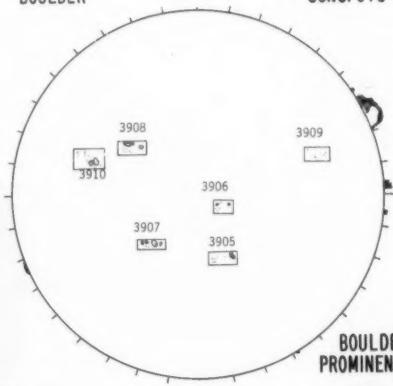
BOULDER Np Hα



E W

1515 UT Sp

BOULDER Np SUNSPOTS BIG BEAR



E W E

1710 UT Sp

Np ACTIVE REGIONS

W

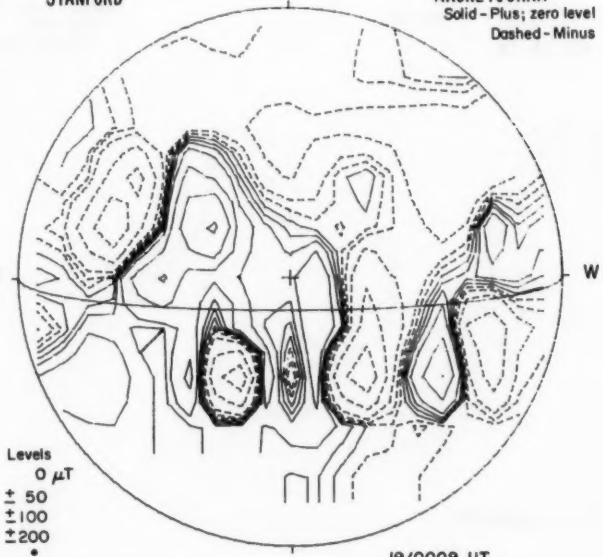
BOULDER PROMINENCES

1515 UT Sp

STANFORD Np MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus

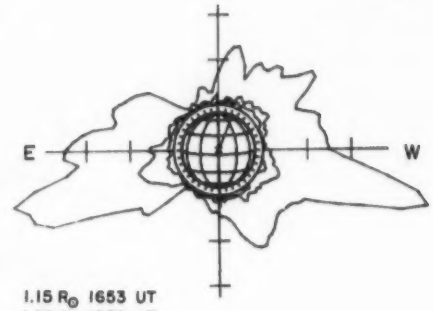


Sp 19/0009 UT

79 Sep 82

SEPTEMBER 19, 1982 (P= 24.68, B_o= 7.13, L_o= 170.50)

SACRAMENTO PEAK Np CORONA
5303 Å

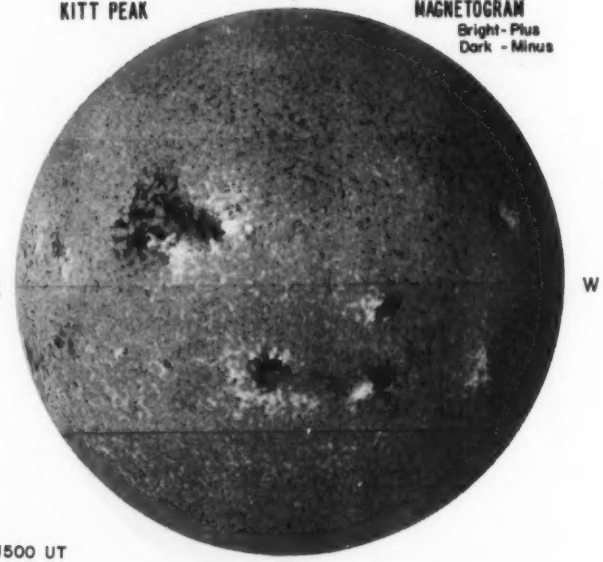


1.15 $R_\odot$ 1653 UT
1.35 $R_\odot$ 1659 UT
1.55 $R_\odot$ 1706 UT

Sp

Np

KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus



1500 UT

Sp

MT. WILSON MAGNETOGRAM
Solid - Plus
Dotted - Minus

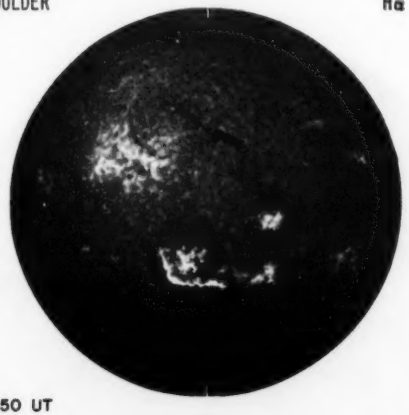
DELTAY =
DELTAX =

E NO DATA W

Levels
± 5
± 10
± 20
± 40
± 80

Sp

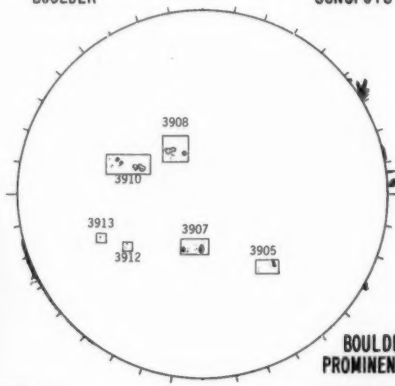
BOULDER Np Hα



E W

1650 UT Sp

BOULDER Np SUNSPOTS BIG BEAR



E W E W

1720 UT Sp

BOULDER PROMINENCES

1650 UT

Np ACTIVE REGIONS

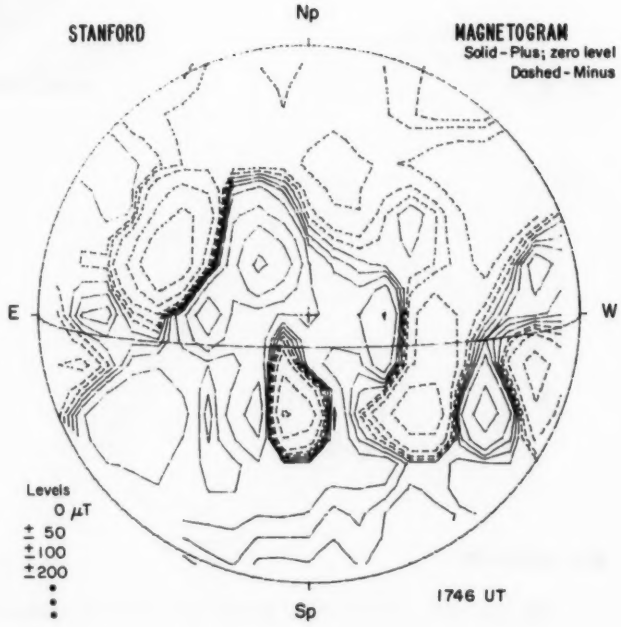
W

Sp

STANFORD Np MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



Sp 1746 UT

SEPTEMBER 20, 1982 (P= 24.82, B_o = 7.11, L_o = 157.30)

SACRAMENTO PEAK Np CORONA 5303 Å

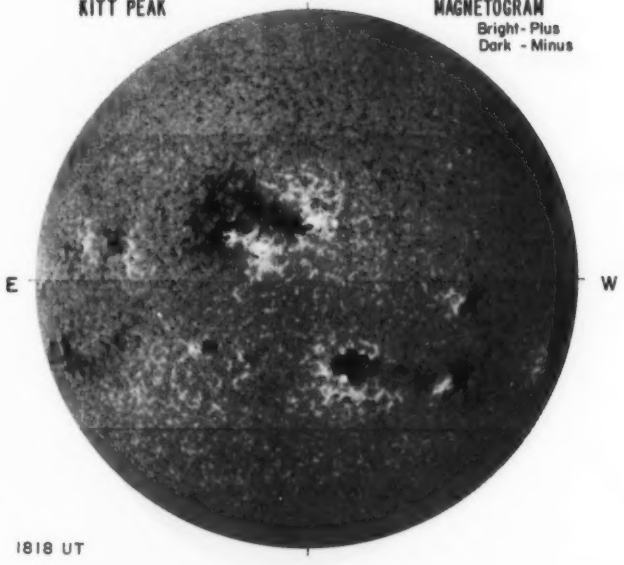
E NO DATA W

1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$

Sp

Np

KITT PEAK MAGNETOGRAM
Bright - Plus
Dark - Minus



E W

1818 UT

Sp

MT. WILSON MAGNETOGRAM
Solid - Plus
Dotted - Minus

DELTAY =
DELTAX =

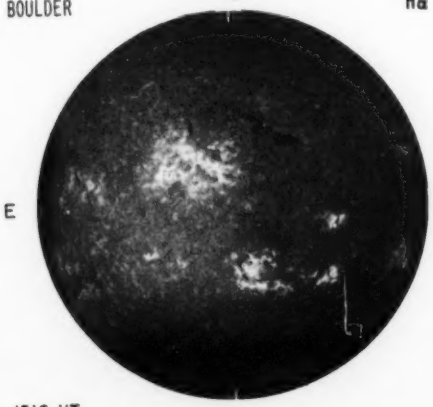
E NO DATA W

Levels
± 5
± 10
± 20
± 40
± 80

Sp

20

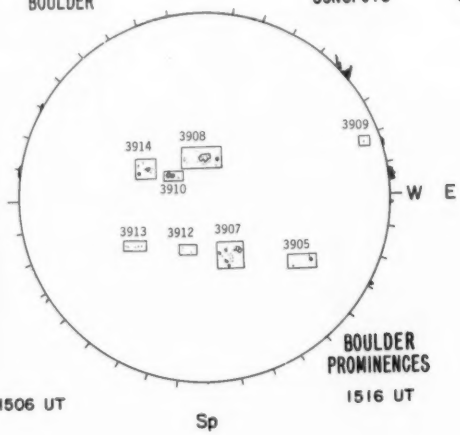
BOULDER



1516 UT

Hα

BOULDER



1506 UT

SUNSPOTS

BIG BEAR

BOULDER PROMINENCES

1516 UT

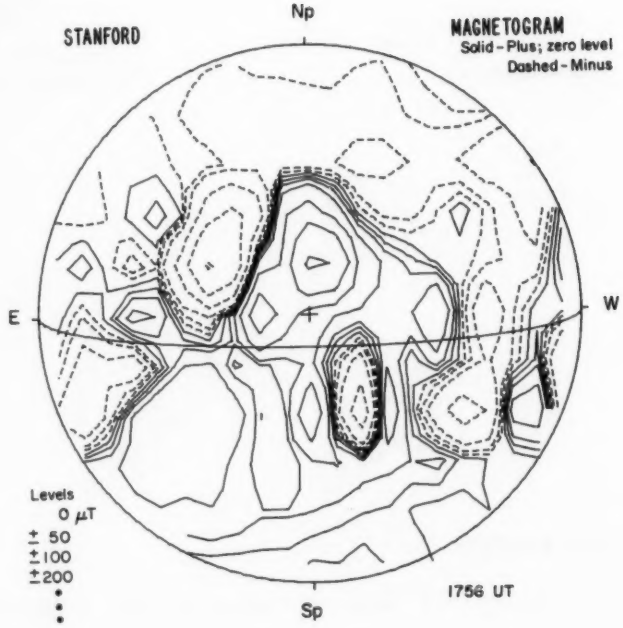
Np

ACTIVE REGIONS

W

Sp

STANFORD



MAGNETOGRAM
Solid - Plus; zero level
Dashed - Minus

1756 UT

83
Sep 82

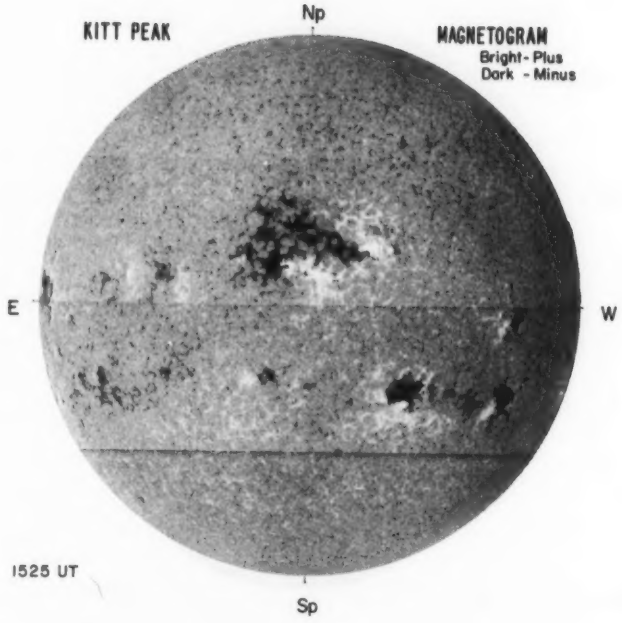
SEPTEMBER 21, 1982 (P= 24.96, B_o= 7.09, L_o= 144.10)

SACRAMENTO PEAK Np CORONA 5303 Å

E NO DATA W

1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$

KITT PEAK

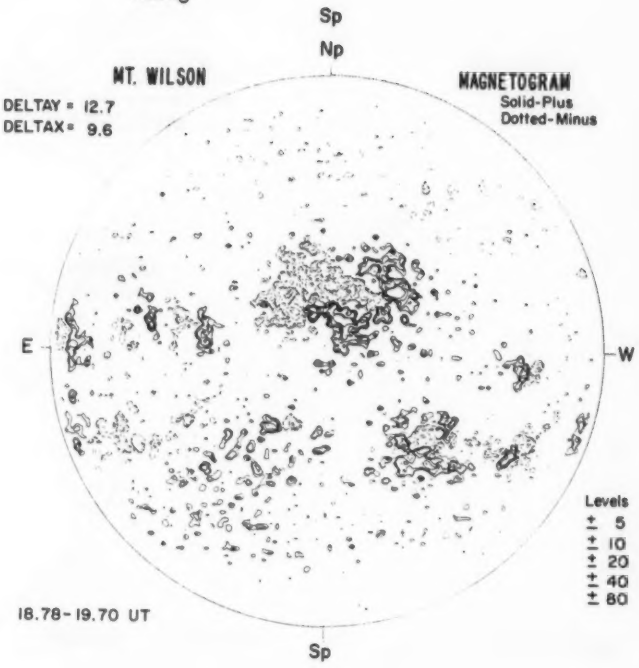


MAGNETOGRAM
Bright - Plus
Dark - Minus

1525 UT

MT. WILSON

DELTAY = 12.7
DELTAX = 9.6

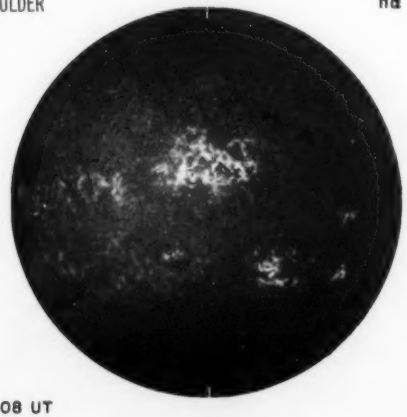


MAGNETOGRAM
Solid-Plus
Dotted-Minus

Levels
+ 5
+ + 10
+ + + 20
+ + + + 40
+ + + + + 80

18.78 - 19.70 UT

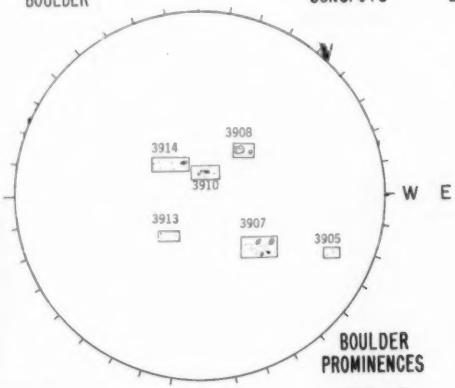
BOULDER Np Hα



E W

1608 UT Sp

BOULDER Np SUNSPOTS BIG BEAR



E W E W

1423 UT Sp

BOULDER PROMINENCES

1608 UT

Np ACTIVE REGIONS

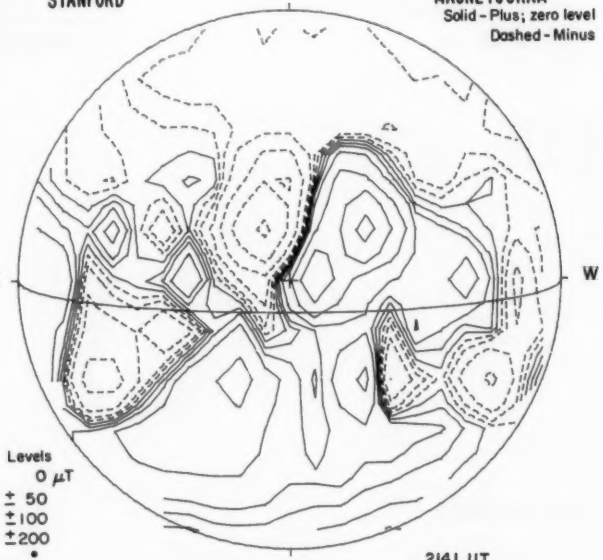
W

Sp

STANFORD Np MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E W

Levels

0 μT

± 50

±100

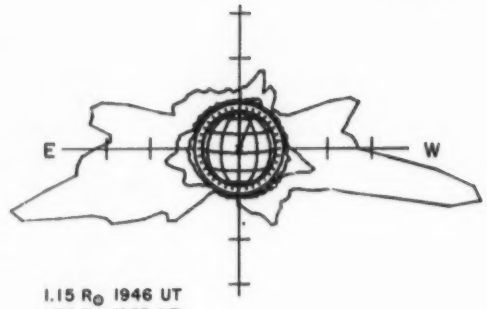
±200

• • •

Sp 2141 UT

SEPTEMBER 22, 1982 (P= 25.09, B_o= 7.06, L_o= 130.90)

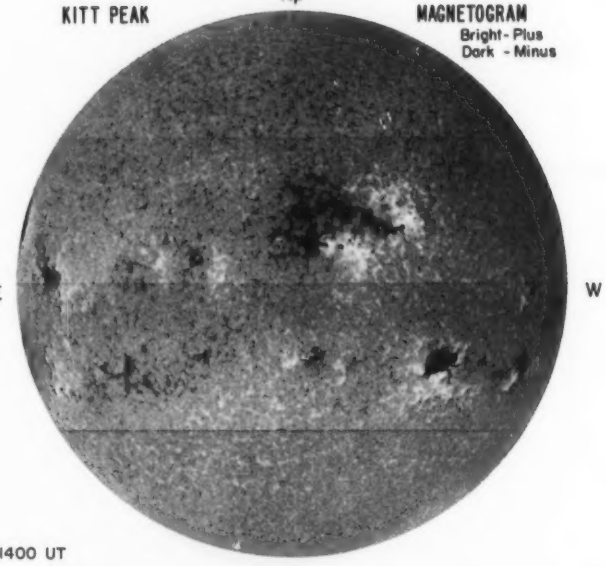
SACRAMENTO PEAK Np CORONA
5303 Å



1.15 $R_\odot$ 1946 UT
1.35 $R_\odot$ 1953 UT
1.55 $R_\odot$ 2001 UT

Sp

KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus



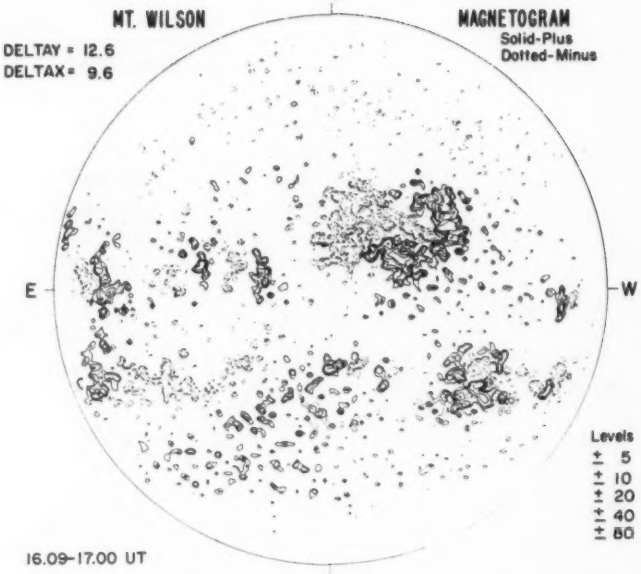
1400 UT

Sp

Np

MT. WILSON MAGNETOGRAM
Solid-Plus
Dotted-Minus

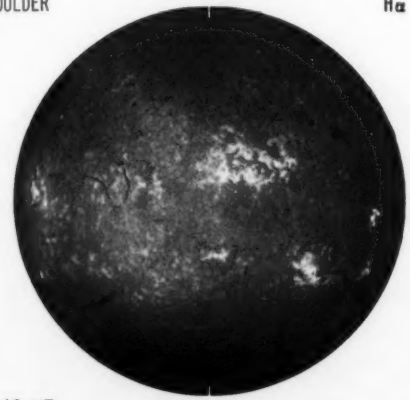
DELTAY = 12.6
DELTAX = 9.6



16.09-17.00 UT

Sp

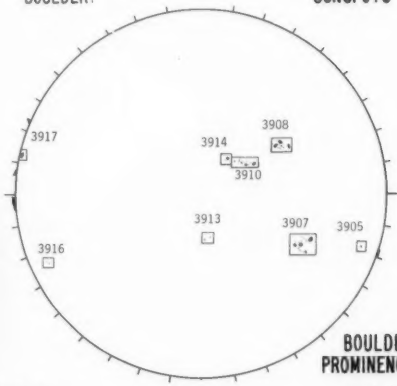
BOULDER Np Hα



E W

1440 UT Sp

BOULDER: Np SUNSPOTS BIG BEAR



E W E

1415 UT Sp

Np ACTIVE REGIONS

W

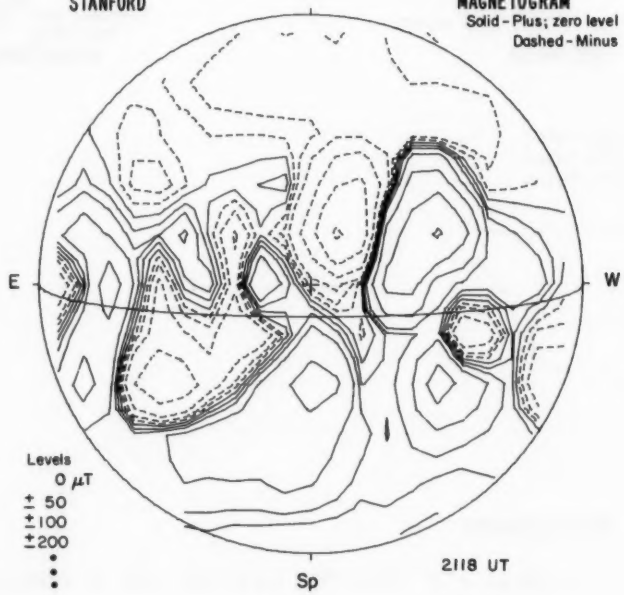
BOULDER PROMINENCES

1440 UT Sp

STANFORD Np MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus

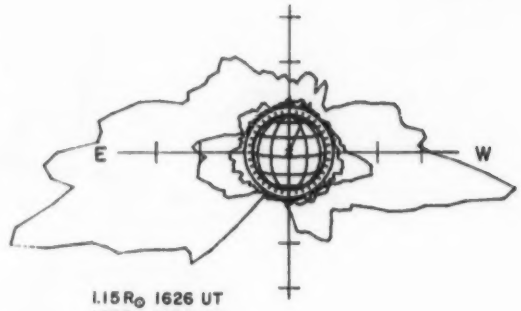


Sp 2118 UT

87
Sep 82

SEPTEMBER 23, 1982 (P= 25.22, B_o= 7.03, L_c= 117.70)

SACRAMENTO PEAK Np CORONA 5303 Å

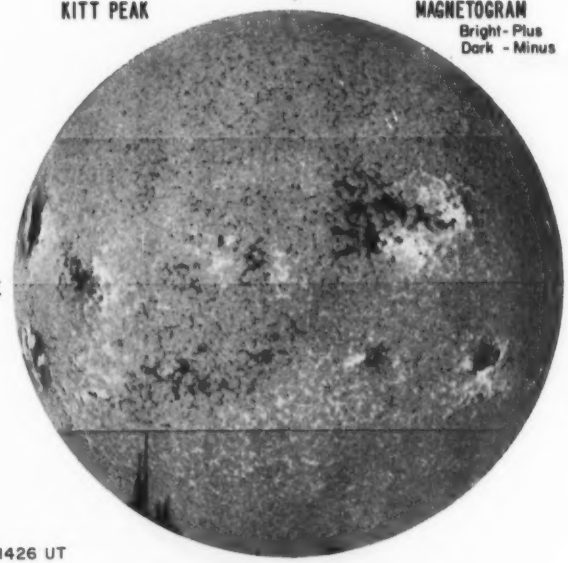


1.15$R_\odot$ 1626 UT
1.35$R_\odot$ 1632 UT
1.55$R_\odot$ 1639 UT

Sp

Np

KITT PEAK Np MAGNETOGRAM Bright - Plus Dark - Minus



1426 UT

Sp

MT. WILSON MAGNETOGRAM Solid - Plus Dotted - Minus

DELTAY =
DELTAX =

E NO DATA W

Levels
± 5
± ± 10
± ± ± 20
± ± ± ± 40
± ± ± ± ± 80

Sp

BOULDER

Np

Hα

E W

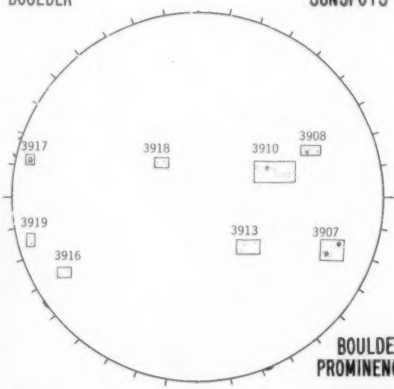
1440 UT

Sp

BOULDER

Np

SUNSPOTS



E W

1440 UT

Sp

BOULDER PROMINENCES

BIG BEAR

Np

ACTIVE REGIONS

E W

1440 UT

Sp

STANFORD

Np

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus

E

NO DATA

W

Levels

0 μT

± 50

±100

±200

•

•

•

Sp

SEPTEMBER 24, 1982 (P= 25.34, B_o= 7.00, L_o= 104.51)

SACRAMENTO PEAK

Np

CORONA
5303 Å

E

NO DATA

W

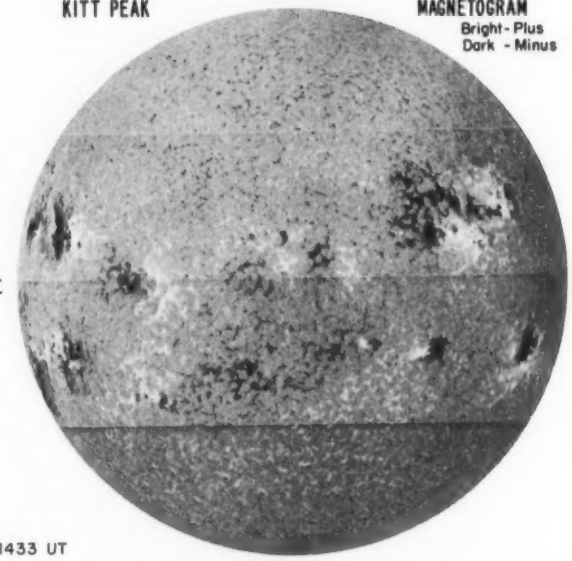
1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$

Sp

Np

KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus



E

W

1433 UT

Sp

MT. WILSON

MAGNETOGRAM
Solid-Plus
Dotted-Minus

DELTAY =
DELTAX =

E

NO DATA

W

Levels
± 5
± 10
± 20
± 40
± 80

Sp

Sp

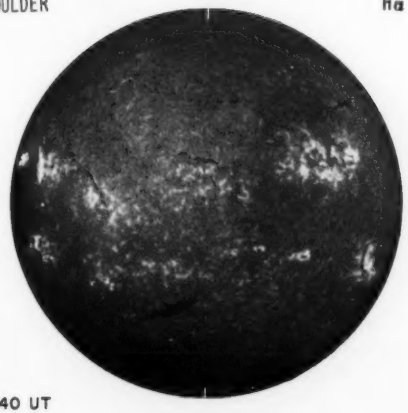
Sp

24

BOULDER

Np

Hα



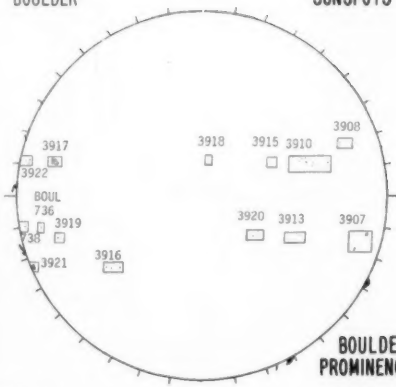
E W

1440 UT

Sp

BOULDER

Np



1445 UT

Sp

SUNSPOTS

BIG BEAR

Np

BOULDER PROMINENCES

1440 UT

Sp

ACTIVE REGIONS

Np

E W

Sp

STANFORD

Np

NO DATA

E W

Sp

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus

Levels

0 μT

± 50

±100

±200

•

•

•

91

Sep 82

SEPTEMBER 25, 1982 (P= 25.45, B_o= 6.96, L_o= 91.31)

SACRAMENTO PEAK Np CORONA 5303 Å

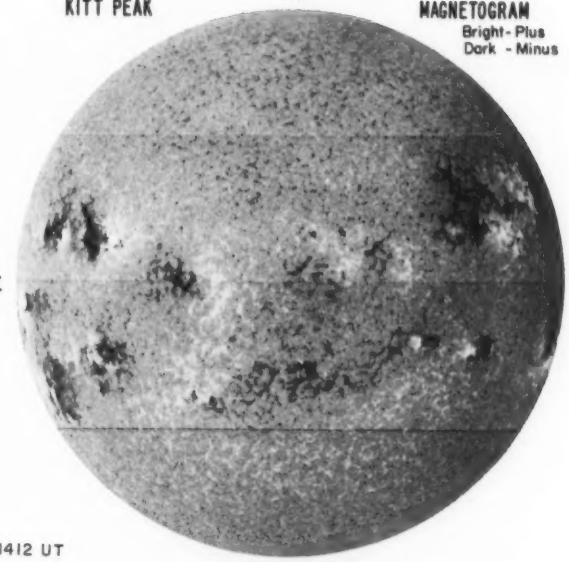
E NO DATA W

1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$

Sp

Np

KITT PEAK Np MAGNETOGRAM Bright-Plus Dark-Minus



E W

1412 UT

Sp

MT. WILSON MAGNETOGRAM Solid-Plus Dotted-Minus

DELTAY =
DELTAX =

E NO DATA W

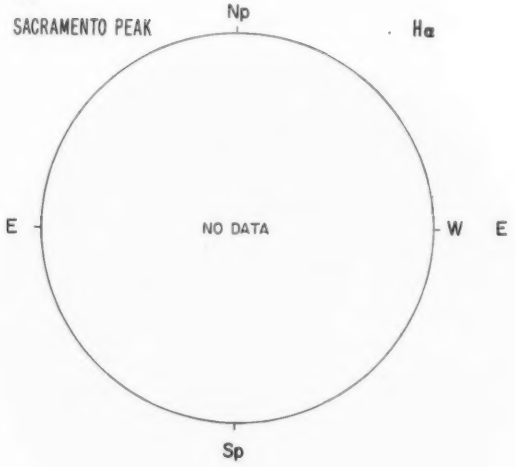
Levels
± 5
± 10
± 20
± 40
± 80

Sp

25 Np Np ACTIVE REGIONS

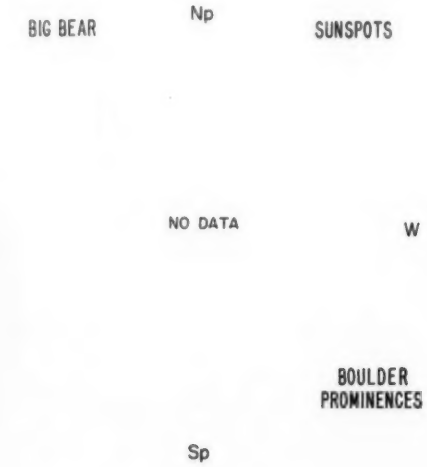
25

SACRAMENTO PEAK



Hα

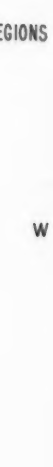
BIG BEAR



SUNSPOTS

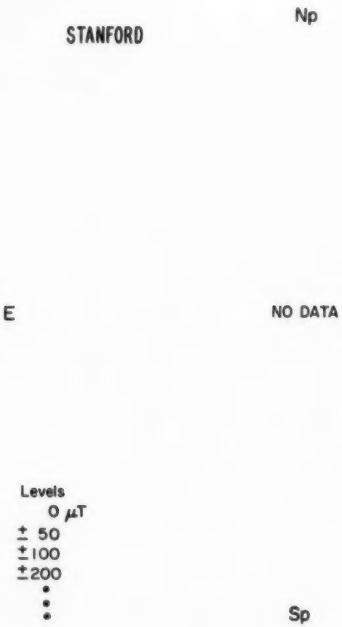
BIG BEAR

ACTIVE REGIONS



BOULDER
PROMINENCES

STANFORD



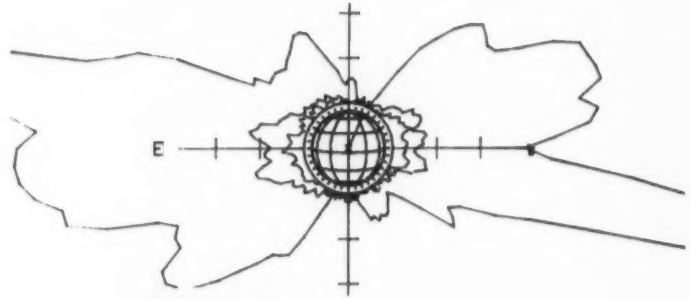
MAGNETOGRAM
Solid - Plus; zero level
Dashed - Minus

Levels
0 μT
± 50
±100
±200

93
Sep 82

SEPTEMBER 26, 1982 (P= 25.56, B_o= 6.93, L_o= 78.11)

SACRAMENTO PEAK Np CORONA 5303 Å

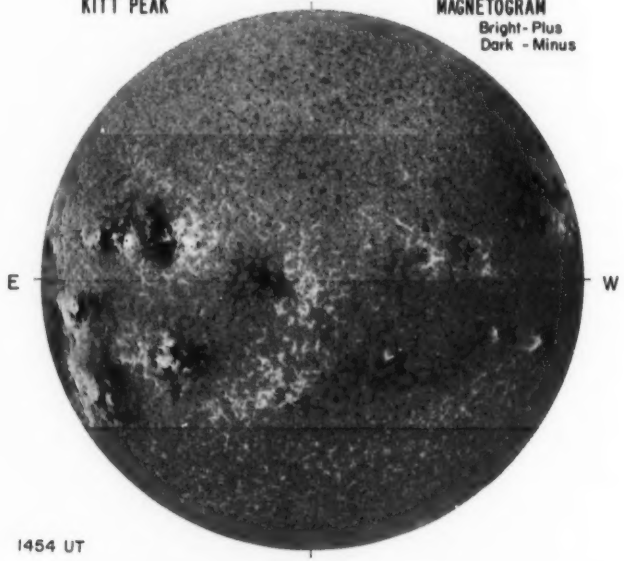


1.15 $R_\odot$ 1508 UT
1.35 $R_\odot$ 1436 UT
1.55 $R_\odot$ 1443 UT

Sp

Np

KITT PEAK MAGNETOGRAM
Bright - Plus
Dark - Minus



1454 UT

MT. WILSON MAGNETOGRAM
Solid-Plus
Dotted-Minus

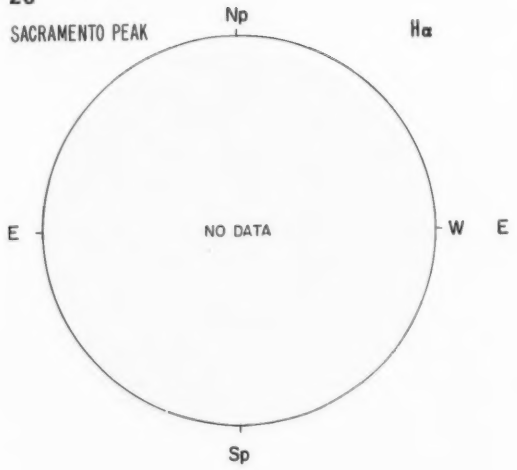
DELTAY =
DELTAX =

E NO DATA W

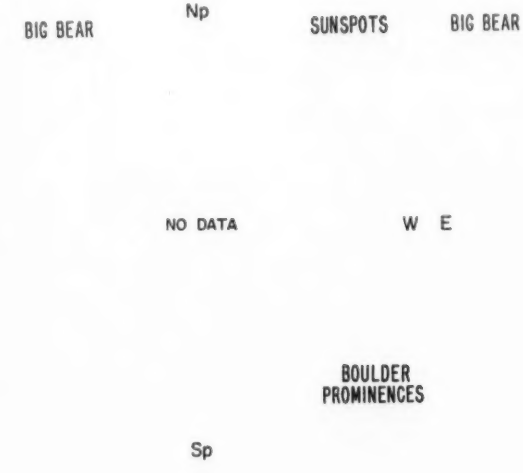
Levels
± 5
± 10
± 20
± 40
± 80

Sp

SACRAMENTO PEAK Hα

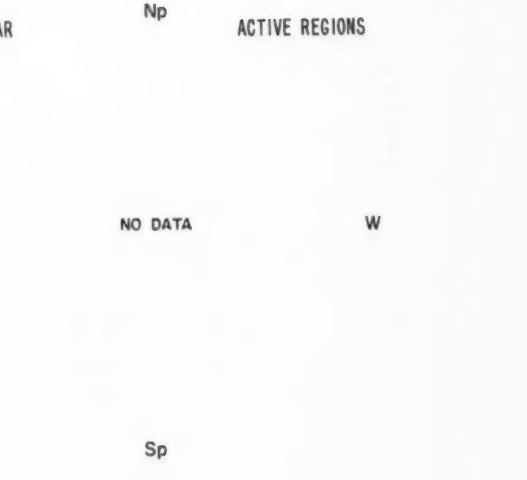


BIG BEAR Hα



SUNSPOTS

BIG BEAR

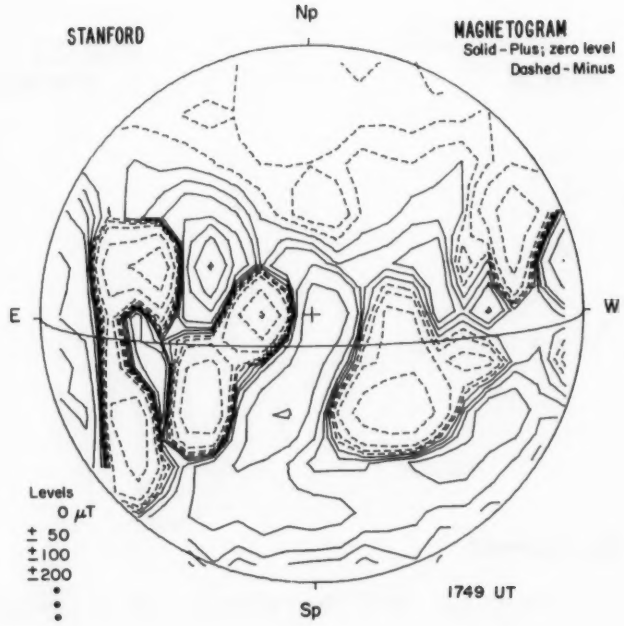


ACTIVE REGIONS

BOULDER PROMINENCES

STANFORD MAGNETOGRAM

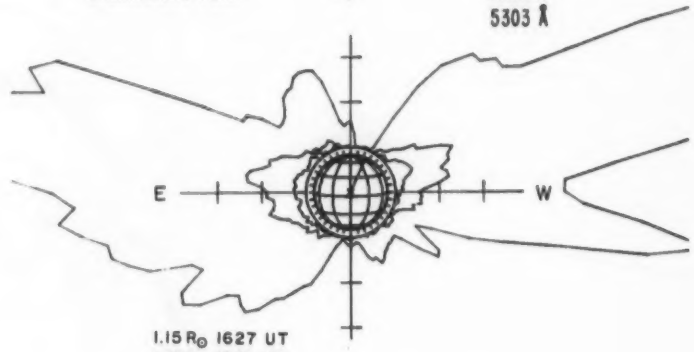
Solid - Plus; zero level
Dashed - Minus



SEPTEMBER 27, 1982 (P= 25.66, B_o= 6.89, L_o= 64.91)

Sep 82
96

SACRAMENTO PEAK Np CORONA 5303 Å



1.15 $R_\odot$ 1627 UT
1.35 $R_\odot$ 1611 UT
1.55 $R_\odot$ 1618 UT

Sp

Np

KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus

E NO DATA W

Sp

MT. WILSON

DELTAY =
DELTAX =

MAGNETOGRAM
Solid - Plus
Dotted - Minus

E NO DATA W

Sp

Levels
± 5
± ± 10
± ± ± 20
± ± ± ± 40
± ± ± ± ± 80

Sp

Sp

27

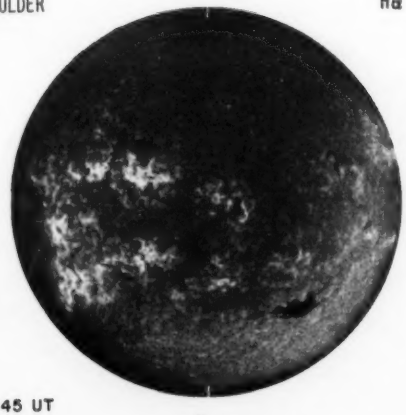
BOULDER

Np

Hα

E

W



1445 UT

Sp

BOULDER

Np

SUNSPOTS

BIG BEAR

E

W

E

3922

3917

3926

3923

3919

3924

3916

3921

1440 UT

Sp

BOULDER PROMINENCES

1445 UT

Np

ACTIVE REGIONS

W

Sp

STANFORD

Np

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus

E

W

Levels

0 μT

± 50

±100

±200

1808 UT

Sp

97

Sep 82

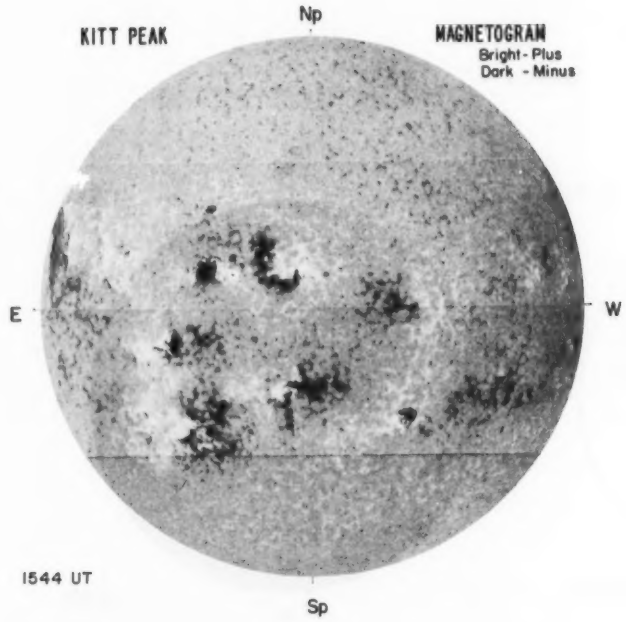
SEPTEMBER 28, 1982 (P= 25.75, B_o= 6.85, L_o= 51.71)

SACRAMENTO PEAK Np CORONA
5303 Å

E NO DATA W

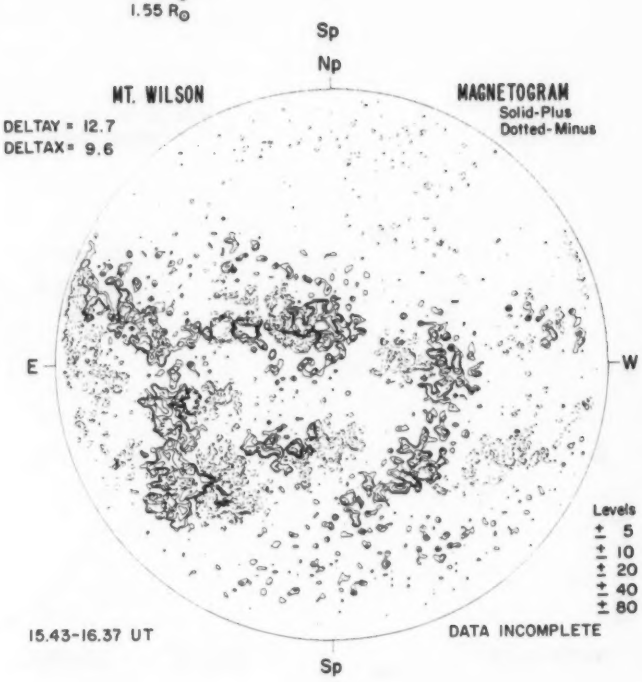
1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$

KITT PEAK MAGNETOGRAM
Bright - Plus
Dark - Minus



1544 UT

MT. WILSON MAGNETOGRAM
Solid-Plus
Dotted-Minus
DELTAY = 12.7
DELTAX = 9.6



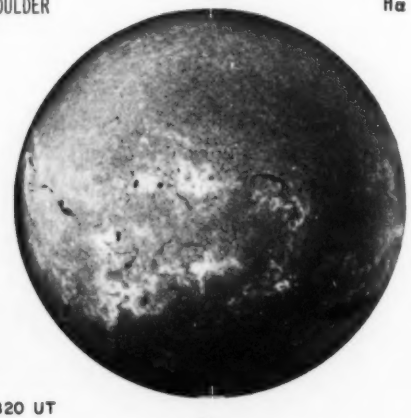
15.43-16.37 UT DATA INCOMPLETE

28

BOULDER

Np

Hα



E

W

1820 UT

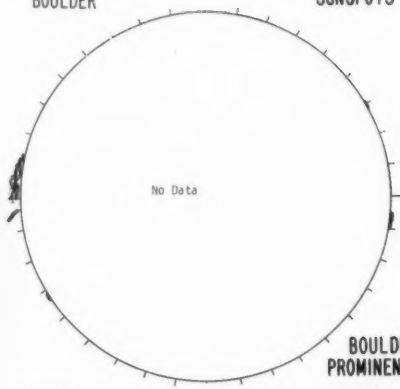
Sp

BOULDER

Np

SUNSPOTS

BIG BEAR



E

W E

NO DATA

Sp

BOULDER PROMINENCES

1820 UT

Np

ACTIVE REGIONS

W

Sp

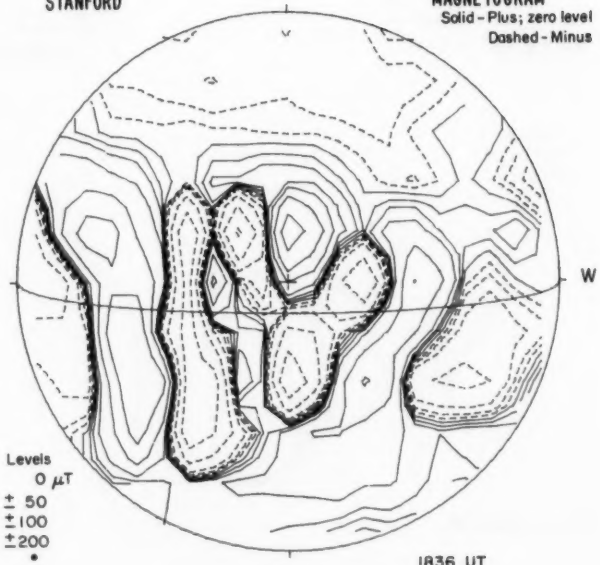
STANFORD

Np

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E

W

Levels

0 μT

± 50

±100

±200

Sp

1836 UT

SEPTEMBER 29, 1982 (P= 25.84, B_o = 6.81, L_o = 38.52)

SACRAMENTO PEAK

Np

CORONA
5303 Å

E

NO DATA

W

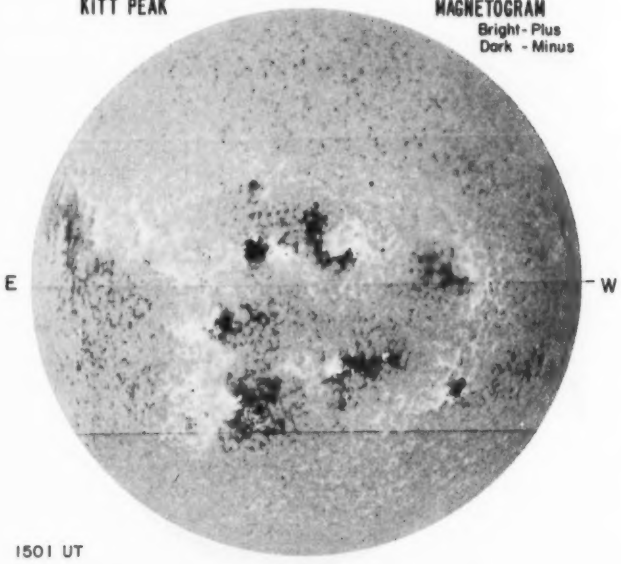
1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$

Sp

Np

KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus



E

W

1501 UT

Sp

MT. WILSON

DELTAY =
DELTAX =

MAGNETOGRAM
Solid - Plus
Dotted - Minus

E

NO DATA

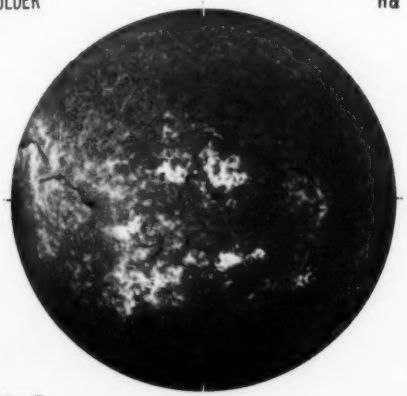
W

Levels
± 5
± 10
± 20
± 40
± 80

Sp

29

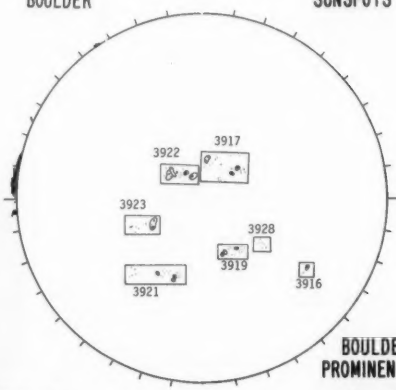
BOULDER Np Hα



E W

1558 UT Sp

BOULDER Np SUNSPOTS



E W

1538 UT Sp

BIG BEAR Np ACTIVE REGIONS

W

Sp

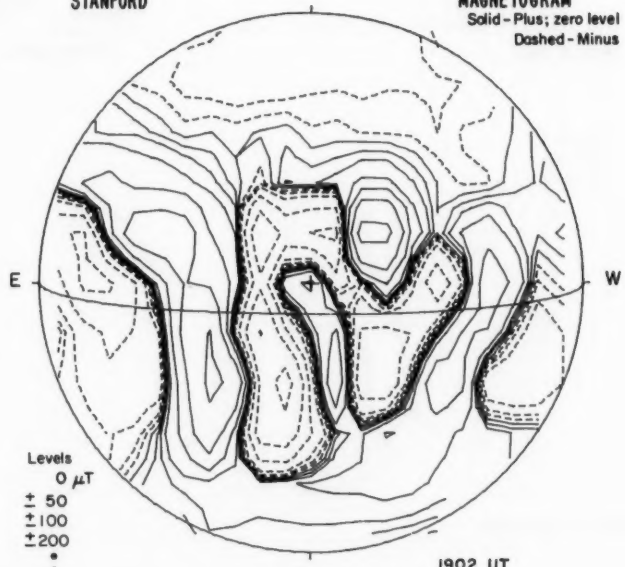
BOULDER PROMINENCES

1558 UT

STANFORD Np MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



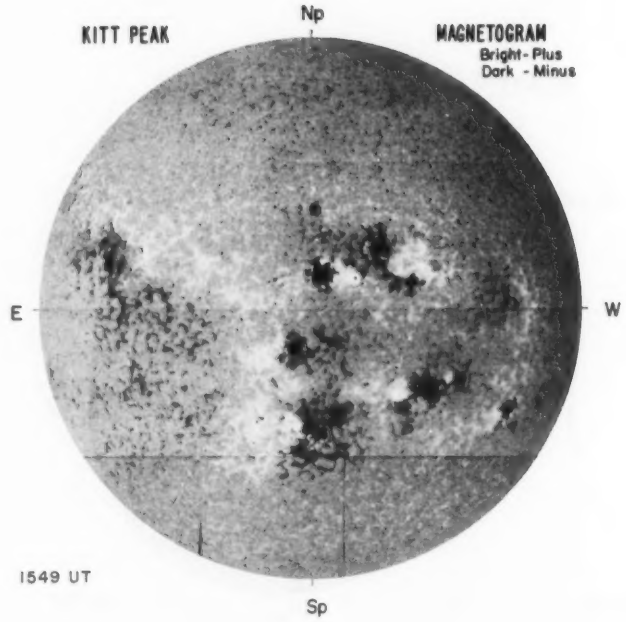
1902 UT

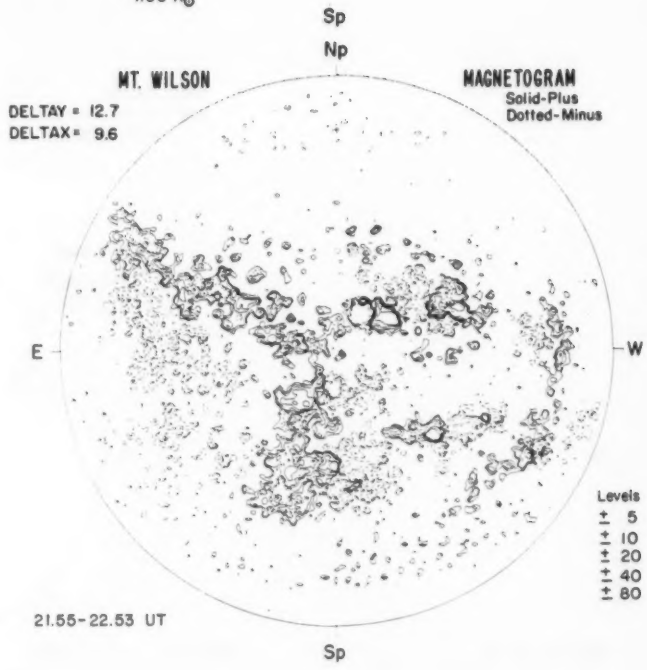
SEPTEMBER 30, 1982 (P= 25.92, B_o= 6.77, L_o= 25.32)

SACRAMENTO PEAK Np CORONA 5303 Å

E NO DATA W

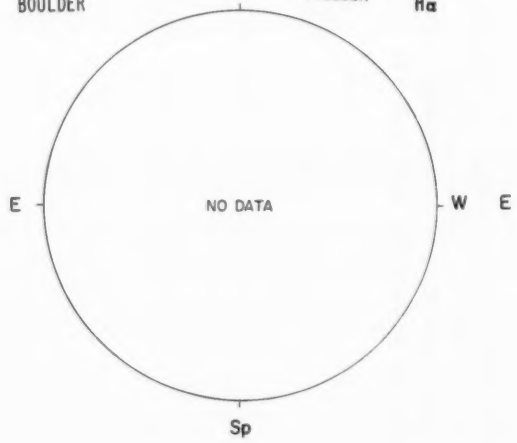
1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$





30

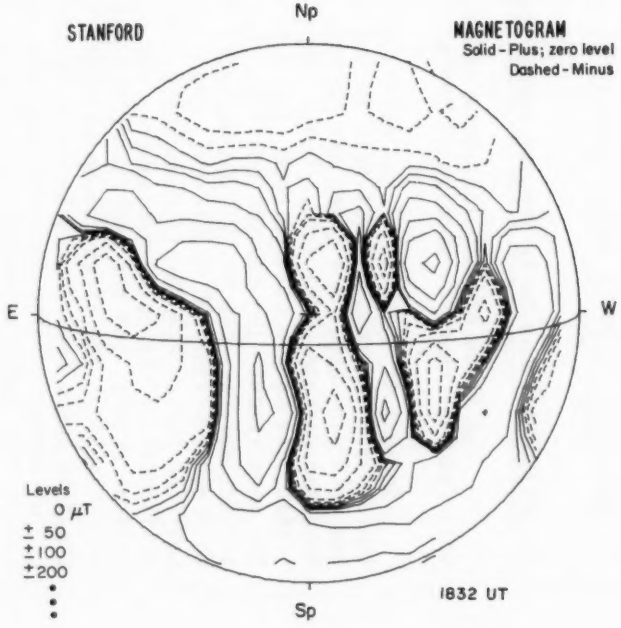
BOULDER Np BOULDER Hα BOULDER Np SUNSPOTS BIG BEAR Np ACTIVE REGIONS



E NO DATA W E W E

Sp Sp

BOULDER
PROMINENCES



103
Sep 82

EDITOR'S NOTE: A crisis is occurring in long term solar synoptic observing programs. Funding for these programs is extremely scarce. Because of further data center budget reductions, we are unable to continue providing the added extra amount that for years has kept some of these programs alive. We deeply regret this occurrence. Unless an alternate source of funds is found, the following data bases will simply cease:

Mt. Wilson daily sunspot magnetic classifications (available since 1917);

Big Bear (previously McMath) daily Calcium plage data (photos and reduced daily listings of regions -- available since 1942), and the

Big Bear daily solar flare listings and daily sunspot drawings;

Harvard/Fort Davis daily solar radio spectral observations (available since 1952); and the

AAVSO American daily sunspot number Ra (available since 1946).

The value of such long term synoptic data bases in solar-terrestrial and solar/stellar research studies is indisputable.

Because of the loss of the daily Calcium plage data, we have expanded on the sunspot information available in the table Regions of Solar Activity. On the following pages are given the Regions of Sunspot Activity ordered by Central Meridian Passage (CMP) date. Daily reports from a number of stations are listed, giving the station code, the date of observation, the Universal Time of the measurement, the sunspot position (latitude and longitude), the CMP month and decimal day, the Mt. Wilson magnetic field intensity and classification (see the February 1982 SGD Supplement, Explanation of Data Reports, page 24), the modified Zurich/Penumbral/Compactness classification, the corrected area in millionths of the solar hemisphere, the number of spots in the group, its longitudinal extent, and the quality of the observation (from 1 (poor) to 5 (excellent)). The first column contains the NOAA/USAF region number assigned by the NOAA Space Environment Services Center (SESC). The Mt. Wilson sunspot region number is also included when the Mt. Wilson reports are available. We expect this table to evolve, possibly to include the group CMP date and its Carrington longitude.

REGIONS OF SUNSPOT ACTIVITY
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

SEPTEMBER 1982

NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Time Mo	Day	(UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10^{-6} Hem)	Spot Count	Long. Extent (Deg)	Qual
3879	23305	MWIL	08	26	1530	S13	E80	09	1.7	1	AP					
3879		LEAR	08	27	0110	S15	E75	09	1.7		A	AXX		2		3
3879		HOLL	08	27	1424	S14	E69	09	1.8		B	CRO	40	4	7	4
3879	23305	MWIL	08	27	1545	S14	E69	09	1.9	3	(B)					
3879		MANI	08	27	2333	S13	E66	09	2.0			DRO	110	4	9	2
3879		LEAR	08	28	0055	S15	E63	09	1.8		B	DRO	40	6	9	3
3879		RAMY	08	28	1330	S14	E56	09	1.8		B	DAO	120	15	9	4
3879		BOUL	08	28	1425	S16	E55	09	1.8		B	DAO	70	9	9	3
3879	23305	MWIL	08	28	1715	S14	E55	09	1.9	3	(BY)					
3879		PALE	08	28	2000	S14	E54	09	1.9		B	DAO	100	16	9	2
3879		LEAR	08	29	0110	S14	E49	09	1.8		B	DAI	200	14	9	3
3879		MANI	08	29	0758	S14	E47	09	1.9			DAO	170	14	9	2
3879		HOLL	08	29	1410	S15	E42	09	1.8		B	DAO	330	13	8	4
3879	23305	MWIL	08	29	1615	S15	E40	09	1.7	5	(B)					
3879		PALE	08	29	1745	S15	E41	09	1.8		B	DAO	290	9	9	3
3879		LEAR	08	30	0033	S15	E36	09	1.8		B	DSO	250	13	9	3
3879		RAMY	08	30	1400	S15	E29	09	1.8		B	DAO	170	6	9	3
3879		BOUL	08	30	1430	S14	E28	09	1.7		B	CHO	170	12	10	2
3879		HOLL	08	30	1438	S15	E28	09	1.7		B	DSO	240	18	10	3
3879	23305	MWIL	08	30	1515	S15	E28	09	1.8	5	(B)					
3879		PALE	08	30	2115	S15	E25	09	1.8		B	CSO	230	17	9	3
3879		LEAR	08	31	0024	S15	E23	09	1.8		B	DHO	240	15	10	3
3879		MANI	08	31	0544	S15	E20	09	1.8			CSO	310	10	9	2
3879		HOLL	08	31	1422	S15	E14	09	1.7		B	DSO	180	13	10	4
3879		BOUL	08	31	1445	S15	E14	09	1.7		B	CHO	160	18	9	3
3879	23305	MWIL	08	31	1530	S15	E13	09	1.6	4	(B)					
3879		LEAR	09	01	0140	S15	E09	09	1.8		B	CSO	170	10	9	2
3879		RAMY	09	01	1250	S15	E03	09	1.8		B	DSO	200	6	10	2
3879		BOUL	09	01	1445	S14	W00	09	1.6		B	EHO	230	5	11	2
3879		HOLL	09	01	1456	S15	W00	09	1.6		B	DHO	160	7	9	4
3879	23305	MWIL	09	01	1500	S15	E02	09	1.8	5	(B)					
3879		LEAR	09	02	0100	S15	W05	09	1.7		B	CSO	180	4	10	2
3879		RAMY	09	02	1343	S15	W15	09	1.4		B	CHO	150	2	5	3
3879		BOUL	09	02	1436	S13	W12	09	1.7		B	CSO	100	9	11	3
3879	23305	MWIL	09	02	1515	S15	W14	09	1.6	5	(B)					
3879		HOLL	09	02	1520	S15	W11	09	1.8		B	CSO	190	10	12	4
3879		PALE	09	02	2030	S15	W18	09	1.5		B	CSO	150	2	4	2
3879		LEAR	09	03	0130	S15	W18	09	1.7		B	CSO	150	3	9	2
3879		RAMY	09	03	1305	S15	W29	09	1.3		A	HSX	140	1	2	3
3879		BOUL	09	03	1500	S13	W29	09	1.4		A	HSX	90	2	3	3
3879	23305	MWIL	09	03	1515	S15	W28	09	1.5	5	(BP)					
3879		PALE	09	03	1835	S13	W31	09	1.4		A	CSX	180	3	3	3
3879		LEAR	09	04	0115	S15	W35	09	1.4		A	HSX	170	1	2	2
3879		RAMY	09	04	1335	S15	W42	09	1.4		B	CSO	160	4	4	3
3879		HOLL	09	04	1445	S15	W41	09	1.5		B	CSO	170	5	4	4
3879	23305	MWIL	09	04	1530	S15	W42	09	1.5	5	(AP)					
3879		PALE	09	04	1800	S15	W44	09	1.4		B	CSO	180	3	4	2
3879		LEAR	09	05	0025	S15	W47	09	1.5		A	HSX	150	2	3	2
3879		RAMY	09	05	1205	S15	W53	09	1.5		A	HHX	130	1	3	4
3879	23305	MWIL	09	05	1600	S15	W56	09	1.4	5	(AP)					
3879		HOLL	09	05	1700	S16	W57	09	1.4		A	HSX	250	1	2	2
3879		PALE	09	05	2240	S16	W58	09	1.5		A	HSX	200	1	2	3
3879		LEAR	09	06	0023	S15	W61	09	1.4		A	HSX	160	1	2	3
3879		HOLL	09	06	1512	S16	W68	09	1.5		A	HSX	110	1	2	3
3879	23305	MWIL	09	06	1530	S15	W69	09	1.4	4	(AP)					
3879		PALE	09	06	1754	S15	W70	09	1.4		A	HSX	110	1	2	4
3879		LEAR	09	07	0223	S13	W76	09	1.4		A	HSX	140	1	2	3
3879		RAMY	09	07	1223	S15	W75	09	1.8		A	BXX	60	1	1	2
3879	23305	MWIL	09	07	1500	S15	W85	09	1.2	3	(AF)					
3879		PALE	09	07	1806	S14	W88	09	1.1		A	HSX	20	1	2	4
3891	23317	MWIL	09	01	1500	N14	E04	09	1.9	3	(AP)					
3891		LEAR	09	02	0100	N15	W02	09	1.9		A	AXX		1		2
3891		RAMY	09	02	1343	N18	W10	09	1.8		B	BXO	20	3	4	3
3891	23317	MWIL	09	02	1515	N16	W09	09	2.0	2	(B)					
3891		HOLL	09	02	1520	N16	W09	09	2.0		B	BXO	10	3	3	4
3891		LEAR	09	03	0130	N16	W15	09	1.9		B	BXO	10	4	4	2
3891		RAMY	09	03	1305	N16	W22	09	1.9		B	CRO	20	3	5	3
3891	23317	MWIL	09	03	1515	N16	W23	09	1.9	4	(B)					
3891		PALE	09	03	1835	N17	W26	09	1.8		B	BXO	30	4	6	3
3891		LEAR	09	04	0115	N16	W29	09	1.9		B	BXO	10	6	5	2

REGIONS OF SUNSPOT ACTIVITY
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

SEPTEMBER 1982

NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Time Mo	Day	(UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10^{-6} Hemi)	Spot Count	Long. Extent (Deg)	Qual
3891		RAMY	09	04	1335	N16	W36	09	1.8		B	BXO	30	6	7	3
3891		HOLL	09	04	1445	N17	W38	09	1.7		B	BXO	30	6	6	4
3891	23317	MWIL	09	04	1530	N16	W37	09	1.8	3	(B)					
3891		PALE	09	04	1800	N16	W49	09	1.0		B	BXO	30	8	6	2
3891		LEAR	09	05	0025	N16	W43	09	1.8		B	CRO	10	2	6	2
3891		RAMY	09	05	1205	N17	W49	09	1.8		B	CAO	50	7	8	4
3891	23317	MWIL	09	05	1600	N17	W51	09	1.8	3	(B)					
3891		HOLL	09	05	1700	N15	W53	09	1.7		B	BXO	10	4	7	2
3891		PALE	09	05	2240	N16	W56	09	1.7		B	BXO	10	4	8	3
3891		LEAR	09	06	0023	N16	W56	09	1.8		B	BXO	10	6	7	3
3891		HOLL	09	06	1512	N15	W64	09	1.8		B	BXO	10	2	7	3
3891	23317	MWIL	09	06	1530	N16	W64	09	1.8	3	(B)					
3891		PALE	09	06	1754	N17	W67	09	1.7		B	BXO	20	2	8	4
3891		LEAR	09	07	0223	N17	W68	09	1.9		A	AXX		1		3
3891	23317	MWIL	09	07	1500	N17	W77	09	1.8	3	(AP)					
3880	23306	MWIL	08	26	1530	N11	E88	09	2.3	2	(AP)					
3880		LEAR	08	27	0110	N10	E81	09	2.1		A	HSX	70	1	1	3
3880		HOLL	08	27	1424	N12	E74	09	2.2		B	CSO	150	3	10	4
3880	23306	MWIL	08	27	1545	N11	E72	09	2.1	4	(BP)					
3880		MANI	08	27	2333	N12	E69	09	2.2			DSO	190	3	4	2
3880		LEAR	08	28	0055	N12	E66	09	2.0		B	DSO	80	5	4	3
3880		RAMY	08	28	1330	N12	E60	09	2.1		B	DAO	110	13	10	4
3880		BOUL	08	28	1425	N09	E60	09	2.1		B	DSI	70	9	4	3
3880	23306	MWIL	08	28	1715	N11	E58	09	2.1	4	(B)					
3880		PALE	08	28	2000	N11	E58	09	2.2		B	CSO	100	12	7	2
3880		LEAR	08	29	0110	N11	E53	09	2.0		B	DSI	120	11	7	3
3880		MANI	08	29	0758	N11	E50	09	2.1			DSO	80	10	6	2
3880		HOLL	08	29	1410	N11	E46	09	2.1		B	CSO	90	11	7	4
3880	23306	MWIL	08	29	1615	N11	E44	09	2.0	5	(B)					
3880		PALE	08	29	1745	N12	E45	09	2.1		B	CSO	80	7	7	3
3880		LEAR	08	30	0033	N11	E41	09	2.1		B	CSO	70	12	8	3
3880		RAMY	08	30	1400	N11	E33	09	2.1		B	CAO	70	4	8	3
3880		BOUL	08	30	1430	N11	E33	09	2.1		B	CSO	60	9	8	2
3880		HOLL	08	30	1438	N12	E33	09	2.1		B	DSO	80	10	9	3
3880	23306	MWIL	08	30	1515	N11	E33	09	2.1	5	(B)					
3880		PALE	08	30	2115	N11	E28	09	2.0		B	DSO	80	6	7	3
3880		LEAR	08	31	0024	N11	E27	09	2.0		B	CSO	30	7	7	3
3880		MANI	08	31	0544	N11	E24	09	2.0			CSO	60	4	6	2
3880		HOLL	08	31	1422	N11	E18	09	2.0		B	CSO	30	3	7	4
3880		BOUL	08	31	1445	N11	E19	09	2.0		B	CSO	30	9	7	3
3880	23306	MWIL	08	31	1530	N10	E18	09	2.0	4	(BP)					
3880		LEAR	09	01	0140	N10	E14	09	2.1		B	CSO	30	5	10	2
3880		RAMY	09	01	1250	N10	E07	09	2.1		B	CAO	40	3	2	2
3880		BOUL	09	01	1445	N12	E04	09	1.9		B	CSO	30	4	2	2
3880		HOLL	09	01	1456	N10	E04	09	1.9		A	HSX	20	1	2	4
3880	23306	MWIL	09	01	1500	N10	E04	09	1.9	4	(AP)					
3880		LEAR	09	02	0100	N10	W01	09	2.0		A	HSX	30	1	1	2
3880		RAMY	09	02	1343	N09	W08	09	2.0		A	HSX	20	1	1	3
3880		BOUL	09	02	1436	N13	W08	09	2.0		B	CSO	20	4	7	3
3880	23306	MWIL	09	02	1515	N09	W08	09	2.0	4	(AP)					
3880		HOLL	09	02	1520	N09	W08	09	2.0		A	AXX	10	1	1	4
3880		PALE	09	02	2030	N09	W11	09	2.0		A	HSX	20	1	1	2
3880		LEAR	09	03	0130	N10	W14	09	2.0		A	HRX	10	1	1	2
3880		RAMY	09	03	1305	N10	W20	09	2.0		A	HRX	20	1	1	3
3880		BOUL	09	03	1500	N14	W22	09	2.0		B	CRO	30	5	5	3
3880	23306	MWIL	09	03	1515	N09	W21	09	2.1	4	(AP)					
3880		PALE	09	03	1835	N10	W22	09	2.1		A	HRX	20	1	1	3
3880		LEAR	09	04	0115	N10	W27	09	2.0		A	HRX	20	1	1	2
3880		RAMY	09	04	1335	N10	W35	09	1.9		A	HRX	20	1	1	3
3880		HOLL	09	04	1445	N09	W35	09	2.0		A	AXX	10	1		4
3880	23306	MWIL	09	04	1530	N10	W35	09	2.0	4	(AP)					
3880		PALE	09	04	1800	N09	W37	09	2.0		A	AXX	10	1	1	2
3880		LEAR	09	05	0025	N09	W41	09	1.9		A	AXX	10	1		2
3880		RAMY	09	05	1205	N09	W48	09	1.9		A	AXX	10	1	1	4
3880	23306	MWIL	09	05	1600	N09	W50	09	1.9	2	(AP)					
		BOUL	08	31	1445	S10	E24	09	2.4		A	AXX		1		3
	23328	MWIL	09	04	1530	N13	W22	09	3.0	3	(AF)					
3888		RAMY	09	03	1305	N26	W05	09	3.2		B	BXO	20	3	3	3

REGIONS OF SUNSPOT ACTIVITY
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

SEPTEMBER 1982

NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Mo	Day	Time (UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10^{-6} Hem!)	Spot Count	Long. Extent (Deg)	Qual
3888		BOUL	09	03	1500	N27	W08	09	3.0		B	BXO	20	3	3	3
3888	23320	MWIL	09	03	1515	N26	W06	09	3.2	4	(B)					
3888		PALE	09	03	1835	N27	W08	09	3.2		B	BXO	20	2	4	3
3888		LEAR	09	04	0115	N26	W13	09	3.0		B	BXO	10	3	4	2
3888		RAMY	09	04	1335	N26	W20	09	3.0		B	CRO	30	3	6	3
3888		HOLL	09	04	1445	N25	W20	09	3.1		B	CRO	30	3	5	4
3888	23320	MWIL	09	04	1530	N26	W20	09	3.1	4	(B)					
3888		PALE	09	04	1800	N26	W23	09	3.0		B	DRO	30	2	6	2
3888		LEAR	09	05	0025	N26	W26	09	3.0		B	BXO	10	2	6	2
3888		RAMY	09	05	1205	N26	W32	09	3.0		B	BXO	20	4	7	4
3888	23320	MWIL	09	05	1600	N26	W34	09	3.0	3	(B)					
3888		HOLL	09	05	1700	N25	W35	09	3.0		B	BXO	10	3	7	2
3888		HOLL	09	06	1512	N25	W44	09	3.2		A	AXX	10	1		3
3888		RAMY	09	07	1223	N25	W62	09	2.7		B	CSO	20	3	5	2
3888	23337	MWIL	09	07	1500	N26	W61	09	2.9	4	(B)					
3888		HOLL	09	07	1655	N25	W64	09	2.7		B	DSO	40	4	5	2
3888		BOUL	09	07	1700	N25	W62	09	2.9		A	AXX	20	6	7	2
3888		PALE	09	07	1806	N26	W66	09	2.6		B	DAO	80	6	5	4
3888		LEAR	09	08	0233	N27	W70	09	2.7		B	CRO	40	5	6	3
3888		HOLL	09	08	1542	N25	W78	09	2.6		B	BXO	10	3	5	2
3888		PALE	09	08	1820	N25	W80	09	2.6		A	AXX	10	1	1	3
3888		LEAR	09	09	0055	N26	W86	09	2.4		B	BXO		2	4	3
3882		RAMY	08	28	1330	S01	E80	09	3.5		A	HAX	60	1	1	4
3882	23309	MWIL	08	28	1715	S02	E78	09	3.6	3	AP					
3882		PALE	08	28	2000	S02	E79	09	3.7		A	HSX	60	1	2	2
3882		LEAR	08	29	0110	S02	E75	09	3.7		A	HSX	140	1	2	3
3882		MANI	08	29	0758	S02	E73	09	3.8			HSX	80	1	2	2
3882		HOLL	08	29	1410	S03	E70	09	3.8		B	CSO	110	3	8	4
3882	23309	MWIL	08	29	1615	S03	E70	09	3.9	5	(B)					
3882		PALE	08	29	1745	S03	E70	09	4.0		B	DSO	130	4	8	3
3882		LEAR	08	30	0033	S04	E65	09	3.9		B	ESO	180	3	11	3
3882		RAMY	08	30	1400	S04	E59	09	4.0		B	ESO	150	4	11	3
3882		BOUL	08	30	1430	S03	E57	09	3.9		B	EHO	160	6	12	2
3882		HOLL	08	30	1438	S04	E58	09	3.9		B	ESO	230	6	11	3
3882	23309	MWIL	08	30	1515	S03	E57	09	3.9	5	(B)					
3882		PALE	08	30	2115	S04	E54	09	3.9		B	ESO	210	4	11	3
3882		LEAR	08	31	0024	S04	E52	09	3.9		B	ESO	190	8	11	3
3882		MANI	08	31	0544	S03	E50	09	4.0			ESO	240	3	11	2
3882		HOLL	08	31	1422	S04	E43	09	3.8		B	ESO	130	7	12	4
3882		BOUL	08	31	1445	S02	E42	09	3.8		B	ESO	140	6	11	3
3882	23309	MWIL	08	31	1530	S04	E43	09	3.9	4	(B)					
3882		LEAR	09	01	0140	S04	E38	09	3.9		B	ESO	160	5	11	2
3882		RAMY	09	01	1250	S03	E32	09	3.9		B	EHO	180	8	13	2
3882		BOUL	09	01	1445	S05	E27	09	3.6		B	ESO	160	6	12	2
3882		HOLL	09	01	1456	S04	E30	09	3.9		B	ESO	90	10	11	4
3882	23309	MWIL	09	01	1500	S04	E30	09	3.9	5	(BY)					
3882		LEAR	09	02	0100	S05	E25	09	3.9		B	ESO	170	10	13	2
3882		RAMY	09	02	1343	S04	E18	09	3.9		B	EAO	110	5	12	3
3882		BOUL	09	02	1436	S03	E17	09	3.9		B	ESO	120	5	11	3
3882	23309	MWIL	09	02	1515	S04	E17	09	3.9	5	(B)					
3882		HOLL	09	02	1520	S05	E17	09	3.9		B	CSO	140	7	12	4
3882		PALE	09	02	2030	S04	E14	09	3.9		B	CSO	130	5	12	2
3882		LEAR	09	03	0130	S05	E11	09	3.9		B	ESO	120	5	12	2
3882		RAMY	09	03	1305	S03	E03	09	3.8		B	EAO	110	6	12	3
3882		BOUL	09	03	1500	S02	E03	09	3.8		B	ESO	100	7	11	3
3882	23309	MWIL	09	03	1515	S03	W01	09	3.6	5	(AP)					
3882		PALE	09	03	1835	S02	E01	09	3.8		B	ESO	100	6	12	3
3882		LEAR	09	04	0115	S05	W03	09	3.8		B	CSO	80	3	11	2
3882		RAMY	09	04	1335	S02	W12	09	3.7		B	EAO	60	3	12	3
3882		HOLL	09	04	1445	S04	W10	09	3.9		B	CSO	90	12	13	4
3882	23309	MWIL	09	04	1530	S02	W16	09	3.4	5	(AP)					
3882		PALE	09	04	1800	S03	W12	09	3.9		B	CSO	100	7	12	2
3882		LEAR	09	05	0025	S02	W22	09	3.4		A	HSX	50	1	1	2
3882		RAMY	09	05	1205	S04	W24	09	3.7		B	EHO	90	5	14	4
3882	23309	MWIL	09	05	1600	S02	W30	09	3.4	5	(AP)					
3882		HOLL	09	05	1700	S03	W30	09	3.5		B	CSO	60	3	5	2
3882		PALE	09	05	2240	S03	W31	09	3.6		B	CSO	80	3	6	3
3882		LEAR	09	06	0023	S02	W36	09	3.3		A	HSX	70	1	2	3
3882		HOLL	09	06	1512	S03	W43	09	3.4		A	HSX	60	1	2	3
3882	23309	MWIL	09	06	1530	S02	W44	09	3.4	5	(AP)					

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3882		PALE	09	06	1754	S02	W47	09	3.2		A	HSX	60	1	2	4
3882		LEAR	09	07	0223	S01	W52	09	3.2		B	CSO	60	2	4	3
3882		RAMY	09	07	1223	S02	W58	09	3.2		A	HSX	30	1	2	2
3882	23309	MWIL	09	07	1500	S02	W59	09	3.2	4	(AP)					
3882		HOLL	09	07	1655	S02	W59	09	3.3		A	HSX	60	1	2	2
3882		BOUL	09	07	1700	S01	W60	09	3.2		A	AXX	20	2	2	2
3882		PALE	09	07	1806	S01	W61	09	3.2		A	HSX	20	1	2	4
3882		LEAR	09	08	0233	S01	W65	09	3.2		A	HSX	60	1	2	3
3882		RAMY	09	08	1236	S02	W71	09	3.2		A	HSX	30	1	2	2
3882		BOUL	09	08	1415	N01	W70	09	3.4		A	AXX	30	1	1	2
3882		HOLL	09	08	1542	S02	W72	09	3.3		A	HSX	20	1	1	2
3882		PALE	09	08	1820	S02	W74	09	3.2		A	AXX	10	1	1	3
3882		LEAR	09	09	0055	S01	W79	09	3.1		A	HRX	20	1	1	3
	23318	MWIL	09	02	1515	N13	E16	09	3.8	2	(AP)					
3883	23311	MWIL	08	29	1615	S20	E68	09	3.9	3	(AP)					
3883		PALE	08	29	1745	S20	E68	09	3.9		A	AXX		1		3
3883		LEAR	08	30	0033	S19	E64	09	3.9		A	AXX	10	2	1	3
3883		RAMY	08	30	1400	S20	E56	09	3.9		B	BXO	40	2	2	3
3883		BOUL	08	30	1430	S19	E55	09	3.8		B	BXO	10	4	5	2
3883		HOLL	08	30	1438	S19	E57	09	4.0		A	BXO	10	2	3	3
3883	23311	MWIL	08	30	1515	S20	E55	09	3.8	3	(B)					
3883		PALE	08	30	2115	S19	E52	09	3.9		A	HSX	30	2	1	3
3883		LEAR	08	31	0024	S20	E51	09	3.9		A	AXX		2		3
3883		MANI	08	31	0544	S19	E50	09	4.1			BXO	20	2	5	2
3883		HOLL	08	31	1422	S20	E43	09	3.9		B	DRO	50	5	6	4
3883	23311	MWIL	08	31	1530	S20	E43	09	3.9	3	(B)					
3883		LEAR	09	01	0140	S20	E38	09	4.0		B	DRO	70	10	5	2
3883		RAMY	09	01	1250	S20	E32	09	4.0		B	DAO	150	17	7	2
3883		BOUL	09	01	1445	S20	E29	09	3.8		B	DAI	140	14	7	2
3883		HOLL	09	01	1456	S20	E31	09	4.0		B	DSO	80	12	6	4
3883	23311	MWIL	09	01	1500	S20	E31	09	4.0	4	(B)					
3883		LEAR	09	02	0100	S20	E25	09	4.0		B	DRI	100	16	9	2
3883		RAMY	09	02	1343	S20	E19	09	4.0		B	DAI	210	27	10	3
3883		BOUL	09	02	1436	S20	E17	09	3.9		B	DSI	80	23	9	3
3883	23311	MWIL	09	02	1515	S21	E17	09	3.9	4	(B)					
3883		HOLL	09	02	1520	S21	E17	09	3.9		BG	DRO	130	22	9	4
3883		PALE	09	02	2030	S21	E15	09	4.0		B	DAO	130	12	8	2
3883		LEAR	09	03	0130	S21	E12	09	4.0		B	DAI	190	22	9	2
3883		RAMY	09	03	1305	S20	E05	09	3.9		B	DAO	170	2	10	3
3883		BOUL	09	03	1500	S18	E03	09	3.9		B	DAI	120	41	10	3
3883	23311	MWIL	09	03	1515	S21	E04	09	3.9	4	(B)					
3883		PALE	09	03	1835	S21	E02	09	3.9		BG	DAO	160	11	10	3
3883		LEAR	09	04	0115	S21	W02	09	3.9		B	DAO	180	14	10	2
3883		RAMY	09	04	1335	S20	W10	09	3.8		B	EAO	220	22	12	3
3883		HOLL	09	04	1445	S20	W09	09	3.9		B	ESO	230	23	11	4
3883	23311	MWIL	09	04	1530	S20	W10	09	3.9	5	(B)					
3883		PALE	09	04	1800	S22	W12	09	3.8		B	ESO	250	22	11	2
3883		LEAR	09	05	0025	S21	W15	09	3.9		B	EKI	140	18	12	2
3883		RAMY	09	05	1205	S20	W22	09	3.8		B	EKO	210	35	11	4
3883	23311	MWIL	09	05	1600	S20	W25	09	3.8	4	(B)					
3883		HOLL	09	05	1700	S20	W25	09	3.8		B	EKO	220	19	12	2
3883		PALE	09	05	2240	S20	W26	09	4.0		B	DAO	270	18	9	3
3883		LEAR	09	06	0023	S20	W29	09	3.8		B	DKI	120	23	10	3
3883		HOLL	09	06	1512	S20	W39	09	3.6		B	DSO	160	14	9	3
3883	23311	MWIL	09	06	1530	S20	W38	09	3.7	4	(BY)					
3883		PALE	09	06	1754	S20	W40	09	3.7		B	DAO	200	18	9	4
3883		LEAR	09	07	0223	S19	W46	09	3.6		B	DSI	230	17	10	3
3883		RAMY	09	07	1223	S20	W50	09	3.7		BG	DAI	180	13	9	2
3883	23311	MWIL	09	07	1500	S20	W53	09	3.6	5	(BP)					
3883		HOLL	09	07	1655	S21	W54	09	3.6		B	EAO	270	8	11	2
3883		BOUL	09	07	1700	S18	W55	09	3.5		B	DRO	110	12	10	2
3883		PALE	09	07	1806	S20	W54	09	3.6		BG	DAI	180	14	10	4
3883		LEAR	09	08	0233	S19	W60	09	3.5		BG	DAI	110	12	8	3
3883		RAMY	09	08	1236	S21	W65	09	3.5		BG	DAO	80	13	10	2
3883		BOUL	09	08	1415	S18	W63	09	3.8		B	BXO	80	12	10	2
3883		HOLL	09	08	1542	S21	W65	09	3.7		B	CSO	90	4	10	2
3883		PALE	09	08	1820	S21	W68	09	3.5		B	CSO	120	6	10	3
3883		LEAR	09	09	0055	S20	W71	09	3.6		B	DSO	190	3	9	3
3883	23311	MWIL	09	09	1500	S20	W75	09	3.9	3	(B)					

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3883		RAMY	09	09	1510	S23	W75	09	3.8		B	DRO	40	3	4	2
3883		PALE	09	09	1830	S20	W80	09	3.6		B	DSO	80	2	5	2
0001	23321	MWIL	09	03	1515	S06	E08	09	4.2	4	(AF)					
0001	23321	MWIL	09	04	1530	S06	W06	09	4.2	4	(AF)					
0001	23321	MWIL	09	05	1600	S04	W20	09	4.2	2	(AF)					
0001	23321	MWIL	09	06	1530	S03	W31	09	4.3	3	(AF)					
	23322	MWIL	09	03	1515	N08	E17	09	4.9	2	X					
3893		RAMY	09	04	1335	N25	E08	09	5.2		A	AXX	10	1	1	3
3893		HOLL	09	04	1445	N25	E08	09	5.2		A	AXX		1		4
3893	23329	MWIL	09	04	1530	N25	E07	09	5.2	3	(AP)					
3893		PALE	09	04	1800	N25	E06	09	5.2		A	AXX	10	1		2
3893		LEAR	09	05	0025	N25	E02	09	5.2		A	AXX		1		2
3893		LEAR	09	07	0223	N21	W28	09	5.0		A	AXX		1		3
3855		RAMY	08	30	1400	N11	E79	09	5.5		A	HAX	130	1	2	3
3897	23323	MWIL	09	03	1515	N18	E27	09	5.7	3	(AP)					
3897	23323	MWIL	09	04	1530	N18	E13	09	5.6	3	(AP)					
3897	23323	MWIL	09	05	1600	N18	W02	09	5.5	3	(AP)					
3897	23323	MWIL	09	06	1530	N19	W15	09	5.5	3	(AP)					
3897		PALE	09	06	1754	N19	W16	09	5.5		A	AXX	10	2	1	4
3897	23323	MWIL	09	07	1500	N19	W29	09	5.4	3	(AP)					
3897		HOLL	09	07	1655	N19	W31	09	5.3		A	AXX		1		2
3897		PALE	09	07	1806	N20	W31	09	5.4		A	AXX	10	2	1	4
3897		LEAR	09	08	0233	N19	W35	09	5.4		B	BXO	10	5	3	3
3897		RAMY	09	08	1236	N20	W40	09	5.5		B	BXO	50	7	5	2
3897		BOUL	09	08	1415	N22	W39	09	5.6		A	AXX	30	6	3	2
3897		HOLL	09	08	1542	N20	W42	09	5.4		B	BXO	30	3	4	2
3897		PALE	09	08	1820	N20	W44	09	5.4		B	BXO	10	3	5	3
3897		RAMY	09	09	1510	N19	W55	09	5.5		B	DAO	100	5	5	2
3885		LEAR	08	30	0033	N11	E88	09	5.6		A	HSX	90	1	2	3
3885		BOUL	08	30	1430	N12	E77	09	5.4		A	HHO	180	2	4	2
3885		HOLL	08	30	1438	N11	E80	09	5.6		A	HKX	250	2	3	3
3885	23313	MWIL	08	30	1515	N11	E80	09	5.7	4	(AP)					
3885		PALE	08	30	2115	N11	E78	09	5.8		A	HAX	190	2	3	3
3885		LEAR	08	31	0024	N11	E75	09	5.7		A	HSX	220	2	2	3
3885		MANI	08	31	0544	N11	E72	09	5.7			HHX	420	2	3	2
3885		HOLL	08	31	1422	N11	E68	09	5.7		A	HSX	160	2	2	4
3885		BOUL	08	31	1445	N11	E65	09	5.5		A	HKX	170	2	3	3
3885	23313	MWIL	08	31	1530	N10	E67	09	5.7	4	(AP)					
3885		LEAR	09	01	0140	N10	E61	09	5.7		A	HAX	150	2	2	2
3885		RAMY	09	01	1250	N13	E52	09	5.5		A	HKX	170	3	3	2
3885		BOUL	09	01	1445	N10	E53	09	5.6		A	HKX	190	4	3	2
3885		HOLL	09	01	1456	N11	E53	09	5.6		A	HKX	160	3	3	4
3885	23313	MWIL	09	01	1500	N10	E54	09	5.7	5	(AP)					
3885		LEAR	09	02	0100	N10	E48	09	5.7		B	CKO	210	5	6	2
3885		RAMY	09	02	1343	N10	E40	09	5.6		B	CKO	250	4	3	3
3885		BOUL	09	02	1436	N10	E39	09	5.5		A	HAX	230	4	3	3
3885	23313	MWIL	09	02	1515	N10	E40	09	5.6	5	(AP)					
3885		HOLL	09	02	1520	N10	E40	09	5.6		A	HHX	200	5	3	4
3885		PALE	09	02	2030	N09	E38	09	5.7		B	DSI	170	2	3	2
3885		LEAR	09	03	0130	N10	E34	09	5.6		A	HSX	190	4	3	2
3885		RAMY	09	03	1305	N10	E28	09	5.7		B	DAI	170	6	3	3
3885		BOUL	09	03	1500	N13	E25	09	5.5		B	CSO	210	8	4	3
3885	23313	MWIL	09	03	1515	N10	E27	09	5.7	5	(BP)					
3885		PALE	09	03	1835	N10	E26	09	5.7		B	DSO	150	6	3	3
3885		LEAR	09	04	0115	N10	E21	09	5.6		A	HSX	190	6	3	2
3885		RAMY	09	04	1335	N10	E15	09	5.7		B	DAO	140	16	5	3
3885		HOLL	09	04	1445	N10	E13	09	5.6		B	CKO	270	12	5	4
3885	23313	MWIL	09	04	1530	N10	E14	09	5.7	5	(BY)					
3885		PALE	09	04	1800	N10	E13	09	5.7		B	CSO	300	13	6	2
3885		LEAR	09	05	0025	N10	E08	09	5.6		B	CSO	160	10	5	2
3885		RAMY	09	05	1205	N09	E02	09	5.7		B	DHO	200	12	5	4
3885	23313	MWIL	09	05	1600	N10	W01	09	5.6	5	(BF)					
3885		HOLL	09	05	1700	N10	W01	09	5.6		B	DSO	150	9	6	2
3885		PALE	09	05	2240	N11	W02	09	5.8		B	CSO	140	4	5	3
3885		LEAR	09	06	0023	N14	W05	09	5.6		B	CSO	160	13	4	3

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3885		HOLL	09	06	1512	N10	W12	09	5.7		B	DHO	130	9	5	3
3885	23313	MWIL	09	06	1530	N10	W14	09	5.6	5	(BP)					
3885		PALE	09	06	1754	N11	W14	09	5.7		B	DSO	160	9	5	4
3885		LEAR	09	07	0223	N10	W19	09	5.7			CSO	150	5	5	3
3885		RAMY	09	07	1223	N10	W28	09	5.4		B	DAO	110	11	7	2
3885	23313	MWIL	09	07	1500	N10	W27	09	5.6	5	(BY)					
3885		HOLL	09	07	1655	N11	W27	09	5.7		B	DSO	140	12	7	2
3885		BOUL	09	07	1700	N11	W28	09	5.6		B	CSO	130	24	8	2
3885		PALE	09	07	1806	N11	W28	09	5.6		B	DSO	120	13	6	4
3885		LEAR	09	08	0233	N11	W33	09	5.6		B	CAI	160	14	7	3
3885		RAMY	09	08	1236	N10	W38	09	5.7		B	DAO	130	13	10	2
3885		BOUL	09	08	1415	N11	W38	09	5.7		B	DAO	100	2	3	2
3885		HOLL	09	08	1542	N10	W42	09	5.5		B	DAO	200	4	5	2
3885		PALE	09	08	1820	N10	W44	09	5.5		B	DAO	160	3	4	3
3885		LEAR	09	09	0055	N11	W46	09	5.6		BD	DAI	100	5	5	3
3885	23313	MWIL	09	09	1500	N11	W55	09	5.5	4	(BY)					
3885		PALE	09	09	1830	N10	W57	09	5.5		B	DRO	130	5	5	2
3885		LEAR	09	10	0014	N11	W61	09	5.4		B	DRI	50	8	6	3
3885		BOUL	09	10	1414	N12	W70	09	5.3		B	BXO	50	7	8	3
3885		RAMY	09	10	1515	N09	W68	09	5.5		B	CXO	80	6	6	3
3885	23313	MWIL	09	10	1515	N10	W67	09	5.6	3	(BY)					
3885		HOLL	09	10	1520	N09	W67	09	5.6		B	CSO	40	7	7	2
3885		LEAR	09	11	0043	N11	W74	09	5.5		B	CRO	10	3	7	3
3885		RAMY	09	11	1200	N11	W78	09	5.6		A	HSX	60	1	1	3
3885		HOLL	09	11	1430	N12	W81	09	5.5		A	AXX	10	2		4
3885	23313	MWIL	09	11	1515	N12	W80	09	5.6	2	(AP)					
		PALE	09	07	1806	S03	W25	09	5.9		A	AXX	10	1	1	4
	23319	MWIL	09	02	1515	N07	E51	09	6.5	3	(AF)					
	23330	MWIL	09	04	1530	N19	E28	09	6.8	3	(AP)					
3900		RAMY	09	05	1205	S09	E18	09	6.9		B	BXX	10	2	1	4
3900	23333	MWIL	09	05	1600	S09	E15	09	6.8	2	(AP)					
3900		LEAR	09	09	0055	S15	W40	09	6.0		B	BXO	10	3	3	3
3900	23338	MWIL	09	09	1500	S15	W48	09	6.0	3	(B)					
3900		RAMY	09	09	1510	S16	W49	09	5.9		A	AXX	20	3	2	2
3900		RAMY	09	10	1515	S09	W51	09	6.8		A	AXX	20	2	2	3
3886		HOLL	08	31	1422	N14	E88	09	7.3		A	HSX	80	1	1	4
3886		BOUL	08	31	1445	N15	E87	09	7.2		B	CHO	200	4	5	3
3886	23314	MWIL	08	31	1530	N14	E85	09	7.1	3	AP					
3886		LEAR	09	01	0140	N13	E79	09	7.0		A	HKX	260	4	3	2
3886		RAMY	09	01	1250	N15	E73	09	7.1		B	DKI	390	19	5	2
3886		BOUL	09	01	1445	N12	E72	09	7.0		B	DKC	750	14	10	2
3886		HOLL	09	01	1456	N14	E73	09	7.1		B	CKI	540	9	5	4
3886	23314	MWIL	09	01	1500	N14	E73	09	7.1	4	(BF)					
3886		LEAR	09	02	0100	N14	E66	09	7.0		BG	DAI	330	13	7	2
3886		RAMY	09	02	1343	N15	E58	09	7.0		B	DKI	710	29	10	3
3886		BOUL	09	02	1436	N13	E58	09	7.0		BG	DAI	470	27	8	3
3886	23314	MWIL	09	02	1515	N13	E59	09	7.1	4	(B)					
3886		HOLL	09	02	1520	N15	E58	09	7.0		B	DAI	220	22	8	4
3886		PALE	09	02	2030	N13	E56	09	7.1		BG	DAI	200	11	8	2
3886		LEAR	09	03	0130	N14	E53	09	7.1		BG	DAI	270	19	8	2
3886		RAMY	09	03	1305	N13	E45	09	6.9		B	DAI	250	32	8	3
3886		BOUL	09	03	1500	N16	E45	09	7.0		BG	DAI	340	43	9	3
3886	23314	MWIL	09	03	1515	N13	E45	09	7.0	4	(B)					
3886		PALE	09	03	1835	N14	E44	09	7.1		BG	DAI	220	21	9	3
3886		LEAR	09	04	0115	N13	E39	09	7.0		B	DSI	260	22	8	2
3886		RAMY	09	04	1335	N13	E31	09	6.9		BG	DAI	340	42	9	3
3886		HOLL	09	04	1445	N15	E32	09	7.0		BGD	DKI	530	38	9	4
3886	23314	MWIL	09	04	1530	N13	E32	09	7.1	5	(B)					
3886		PALE	09	04	1800	N14	E30	09	7.0		BGD	DKI	550	44	8	2
3886		LEAR	09	05	0025	N13	E26	09	7.0		B	DHI	350	28	8	2
3886		RAMY	09	05	1205	N15	E22	09	7.2		BGD	DHI	430	40	9	4
3886	23314	MWIL	09	05	1600	N13	E17	09	7.0	5	(BY)					
3886		HOLL	09	05	1700	N13	E15	09	6.8		BGD	DKI	430	37	10	2
3886		PALE	09	05	2240	N13	E15	09	7.1		BGD	ESI	450	36	11	3
3886		LEAR	09	06	0023	N14	E13	09	7.0		B	DHI	340	26	9	3
3886		HOLL	09	06	1512	N12	E04	09	6.9		B	EKI	270	38	12	3

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3886	23314	MWIL	09	06	1530	N13	E04	09	6.9	5	(B)					
3886		PALE	09	06	1754	N13	E02	09	6.9		B	EKI	270	43	12	4
3886		LEAR	09	07	0223	N14	W03	09	6.9		B	DSI	250	35	10	3
3886		RAMY	09	07	1223	N14	W08	09	6.9		BG	EHI	340	65	13	2
3886	23314	MWIL	09	07	1500	N13	W10	09	6.9	5	(D)					
3886		HOLL	09	07	1655	N13	W10	09	6.9		B	ESI	320	25	11	2
3886		BOUL	09	07	1700	N14	W11	09	6.9		B	ESO	160	28	14	2
3886		PALE	09	07	1806	N14	W11	09	6.9		BG	EHI	240	42	12	4
3886		LEAR	09	08	0233	N14	W15	09	7.0		B	ESO	330	37	12	3
3886		RAMY	09	08	1236	N14	W20	09	7.0		B	EAO	210	36	12	2
3886		BOUL	09	08	1415	N15	W20	09	7.1		B	CSO	140	11	11	2
3886		HOLL	09	08	1542	N13	W23	09	6.9		B	CSO	160	12	10	2
3886		PALE	09	08	1820	N13	W25	09	6.9		B	CSO	180	14	11	3
3886		LEAR	09	09	0055	N14	W27	09	7.0		B	CSO	180	19	14	3
3886	23314	MWIL	09	09	1500	N13	W38	09	6.8	5	(B)					
3886		RAMY	09	09	1510	N12	W38	09	6.8		B	CAO	90	7	12	2
3886		PALE	09	09	1830	N12	W43	09	6.5		B	CAO	110	3	6	2
3886		LEAR	09	10	0014	N14	W42	09	6.8		B	CSO	110	7	8	3
3886		BOUL	09	10	1414	N13	W55	09	6.4		A	HSX	70	1	2	3
3886		RAMY	09	10	1515	N11	W50	09	6.9		B	CSO	80	5	13	3
3886	23314	MWIL	09	10	1515	N12	W50	09	6.9	5	(B)					
3886		HOLL	09	10	1520	N11	W55	09	6.5		A	HSX	60	1	2	2
3886		LEAR	09	11	0043	N13	W55	09	6.9		B	ESO	100	5	12	3
3886		RAMY	09	11	1200	N11	W65	09	6.6		A	HAX	70	1	2	3
3886		HOLL	09	11	1430	N13	W62	09	6.9		B	CSO	100	4	12	4
3886	23314	MWIL	09	11	1515	N13	W67	09	6.6	4	(BP)					
3886		MANI	09	11	2307	N11	W71	09	6.6			HSX	40	1	2	3
3886		LEAR	09	12	0057	N12	W74	09	6.5		A	HSX	70	1	2	3
3886		PALE	09	12	0110	N11	W75	09	6.4		A	HSX	30	1	2	2
3886		BOUL	09	12	1434	N12	W80	09	6.6		A	AXX	30	1	2	2
3886	23314	MWIL	09	12	1600	N11	W81	09	6.6	3	(AP)					
3886		HOLL	09	12	1702	N11	W85	09	6.3		A	HSX	30	2	2	1
3886		PALE	09	12	1803	N12	W88	09	6.1		A	HSX	30	1	1	3
0002	23334	MWIL	09	05	1600	N05	E18	09	7.0	3	(AP)					
0002	23334	MWIL	09	06	1530	N05	E05	09	7.0	3	(AF)					
0003	23324	MWIL	09	03	1515	N20	E54	09	7.8	2	(AP)					
0003		HOLL	09	07	1655	N21	W02	09	7.6		B	BXO	10	3	5	2
0004	23336	MWIL	09	06	1530	N25	E16	09	7.9	3	(AP)					
0004		LEAR	09	07	0223	N26	E10	09	7.9		A	AXX		1		3
3889		RAMY	09	03	1305	S09	E72	09	9.0		A	HRX	30	1	1	3
3889		BOUL	09	03	1500	S09	E71	09	9.0		A	HSX	60	1	1	3
3889	23325	MWIL	09	03	1515	S10	E70	09	8.9	3	(AP)					
3889		PALE	09	03	1835	S10	E71	09	9.1		A	AXX	20	1	1	3
3889		LEAR	09	04	0115	S10	E66	09	9.0		A	HSX	30	1	1	2
3889		RAMY	09	04	1335	S10	E59	09	9.0		A	HRX	30	1	1	3
3889		HOLL	09	04	1445	S09	E59	09	9.0		A	HSX	50	1	1	4
3889	23325	MWIL	09	04	1530	S10	E58	09	9.0	4	(AP)					
3889		PALE	09	04	1800	S10	E57	09	9.0		A	HSX	60	1	1	2
3889		LEAR	09	05	0025	S10	E53	09	9.0		A	HSX	30	1	1	2
3889		RAMY	09	05	1205	S09	E48	09	9.1		A	HSX	30	2	2	4
3889	23325	MWIL	09	05	1600	S10	E45	09	9.1	4	(AP)					
3889		HOLL	09	05	1700	S09	E45	09	9.1		A	HSX	30	1	1	2
3889		PALE	09	05	2240	S09	E42	09	9.1		A	HSX	40	1	2	3
3889		LEAR	09	06	0023	S09	E40	09	9.0		A	HRX	20	1	1	3
3889		HOLL	09	06	1512	S09	E32	09	9.0		A	HRX	20	1	1	3
3889	23325	MWIL	09	06	1530	S10	E31	09	9.0	4	(AP)					
3889		PALE	09	06	1754	S10	E30	09	9.0		A	HSX	20	2	1	4
3889		LEAR	09	07	0223	S10	E25	09	9.0		A	AXX		2	1	3
3889		RAMY	09	07	1223	S08	E20	09	9.0		B	BXO	20	3	2	2
3889	23325	MWIL	09	07	1500	S10	E17	09	8.9	2	AP					
3889		BOUL	09	07	1700	S07	E14	09	8.8		A	AXX	10	2	1	2
3889		PALE	09	07	1806	S09	E16	09	9.0		B	BXO	20	6	3	4
3889		LEAR	09	08	0233	S09	E11	09	8.9		A	AXX	20	4	2	3
3889		RAMY	09	08	1236	S09	E05	09	8.9		A	AXX	20	1	1	2
3889		BOUL	09	08	1415	S07	E03	09	8.8		A	AXX	10	1	1	2
3889		HOLL	09	08	1542	S09	E03	09	8.9		A	AXX	20	2	1	2
3889		PALE	09	08	1820	S09	E01	09	8.8		A	AXX		1		3

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3889		LEAR	09	09	0055	S09	W03	09	8.8		A	AXX		1		3
3899		RAMY	09	08	1236	S11	E18	09	9.9		B	DRO	40	6	4	2
3899		BOUL	09	08	1415	S09	E13	09	9.6		B	BXO	30	8	3	2
3899		HOLL	09	08	1542	S11	E13	09	9.6		B	BXO	40	6	3	2
3899		PALE	09	08	1820	S11	E11	09	9.6		B	BXO	40	7	3	3
3899		LEAR	09	09	0055	S11	E08	09	9.6		B	CRO	30	6	4	3
3899	23339	MWIL	09	09	1500	S11	W00	09	9.6	4	(B)					
3899		RAMY	09	09	1510	S11	W01	09	9.6		B	CSO	30	4	4	2
3899		PALE	09	09	1830	S11	W01	09	9.7		B	BXO	20	3	6	2
3899		LEAR	09	10	0014	S12	W05	09	9.6		B	CRO	20	6	6	3
3899		BOUL	09	10	1414	S09	W13	09	9.6		B	BXO	10	2	6	3
3899		RAMY	09	10	1515	S11	W13	09	9.7		B	BXO	20	2	5	3
3899	23339	MWIL	09	10	1515	S11	W13	09	9.7	3	(B)					
3899		HOLL	09	10	1520	S11	W13	09	9.7		B	BXO	10	5	6	2
3899		LEAR	09	11	0043	S13	W16	09	9.8		B	BXO		2	3	3
3899		PALE	09	12	0110	S12	W32	09	9.6		B	BXO	20	3	3	2
3899		BOUL	09	12	1434	S12	W40	09	9.6		B	BXO	10	3	4	2
3899	23339	MWIL	09	12	1600	S13	W40	09	9.6	4	(B)					
3899		PALE	09	12	1803	S12	W42	09	9.6		B	BXO	20	4	4	3
3899		MANI	09	12	2314	S12	W44	09	9.7			BXO	10	2	3	3
3899		LEAR	09	13	0212	S13	W46	09	9.6		B	CRO	20	3	4	3
3899		HOLL	09	13	1410	S13	W54	09	9.5		A	AXX	10	2	2	3
3899	23339	MWIL	09	13	1515	S12	W54	09	9.6	4	(B)					
3899		PALE	09	13	1756	S13	W57	09	9.4		A	AXX	10	2	1	4
3899		MANI	09	13	2320	S12	W58	09	9.6			AXX		1		3
3899		LEAR	09	14	0229	S13	W63	09	9.3		A	AXX		1		3
3890		BOUL	09	03	1500	N07	E83	09	9.8		A	HHX	140	1	3	3
3890	23326	MWIL	09	03	1515	N06	E86	09	10.1	2	AP					
3890		PALE	09	03	1835	N06	E84	09	10.1		A	HSX	90	1	2	3
3890		LEAR	09	04	0115	N05	E80	09	10.0		A	HSX	140	1	2	2
3890		RAMY	09	04	1335	N06	E72	09	10.0		A	HAX	160	1	2	3
3890		HOLL	09	04	1445	N05	E72	09	10.0		A	HSX	210	2	1	4
3890	23326	MWIL	09	04	1530	N05	E72	09	10.0	4	(AP)					
3890	23331	MWIL	09	04	1530	N08	E73	09	10.1	2	(AP)					
3890		PALE	09	04	1800	N05	E73	09	10.2		B	CSO	250	2	5	2
3890		LEAR	09	05	0025	N05	E66	09	10.0		A	HSX	160	2	2	2
3890		RAMY	09	05	1205	N06	E61	09	10.1		A	HHX	200	1	3	4
3890	23326	MWIL	09	05	1600	N05	E58	09	10.0	5	(AP)					
3890		HOLL	09	05	1700	N07	E59	09	10.1		A	HSX	250	1	2	2
3890		PALE	09	05	2240	N06	E56	09	10.1		A	HSX	240	1	2	3
3890		LEAR	09	06	0023	N06	E54	09	10.1		A	HSX	180	1	2	3
3890		HOLL	09	06	1512	N07	E46	09	10.1		A	HSX	110	1	2	3
3890	23326	MWIL	09	06	1530	N05	E46	09	10.1	5	(AP)					
3890		PALE	09	06	1754	N05	E45	09	10.1		A	HSX	140	1	2	4
3890		LEAR	09	07	0223	N05	E39	09	10.0		A	HSX	120	1	2	3
3890		RAMY	09	07	1223	N07	E35	09	10.1		A	HHX	160	1	3	2
3890	23326	MWIL	09	07	1500	N05	E33	09	10.1	5	(AP)					
3890		HOLL	09	07	1655	N06	E41	09	10.8		A	HSX	120	1	2	2
3890		BOUL	09	07	1700	N05	E30	09	10.0		A	HSX	170	1	2	2
3890		PALE	09	07	1806	N05	E31	09	10.1		A	HSX	120	1	2	4
3890		LEAR	09	08	0233	N05	E26	09	10.1		A	HSX	120	1	2	3
3890		RAMY	09	08	1236	N05	E21	09	10.1		A	HSX	130	1	2	2
3890		BOUL	09	08	1415	N06	E19	09	10.0		A	HSX	100	1	2	2
3890		HOLL	09	08	1542	N06	E19	09	10.1		A	HSX	160	1	2	2
3890		PALE	09	08	1820	N05	E17	09	10.0		A	HSX	110	1	2	3
3890		LEAR	09	09	0055	N05	E13	09	10.0		A	HSX	150	1	2	3
3890	23326	MWIL	09	09	1500	N05	E06	09	10.1	5	(AP)					
3890		RAMY	09	09	1510	N05	E06	09	10.1		A	HSX	110	2	2	2
3890		PALE	09	09	1830	N05	E03	09	10.0		A	HSX	120	2	2	2
3890		LEAR	09	10	0014	N05	E01	09	10.1		A	HSX	140	2	2	3
3890		BOUL	09	10	1414	N08	W08	09	10.0		A	CSO	80	2	2	3
3890		RAMY	09	10	1515	N05	W09	09	10.0		A	HSX	70	2	2	3
3890	23326	MWIL	09	10	1515	N07	W07	09	10.1	5	(B)					
3890		HOLL	09	10	1520	N05	W08	09	10.0		A	HSX	100	1	2	2
3890		LEAR	09	11	0043	N05	W13	09	10.1		A	HSX	120	1	2	3
3890		RAMY	09	11	1200	N05	W19	09	10.1		B	CHO	100	3	5	3
3890		HOLL	09	11	1430	N05	W20	09	10.1		B	CHO	180	3	5	4
3890	23326	MWIL	09	11	1515	N05	W22	09	10.0	5	(AP)					
3890		MANI	09	11	2307	N05	W27	09	9.9			CSO	80	2	4	3

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3890		LEAR	09	12	0057	N06	W27	09	10.0		A	HSX	100	1	2	3
3890		PALE	09	12	0110	N05	W28	09	10.0		A	HSX	110	1	2	2
3890		BOUL	09	12	1434	N06	W35	09	10.0		A	HSX	70	1	1	2
3890	23326	MWIL	09	12	1600	N04	W36	09	10.0	5	(AP)					
3890		HOLL	09	12	1702	N04	W36	09	10.0		A	HSX	100	1	2	1
3890		PALE	09	12	1803	N05	W37	09	10.0		A	HAX	70	1	2	3
3890		MANI	09	12	2314	N05	W40	09	10.0			HSX	100	1	2	3
3890		LEAR	09	13	0212	N06	W42	09	9.9		A	HSX	100	1	2	3
3890		HOLL	09	13	1410	N05	W48	09	10.0		A	HSX	90	1	2	3
3890	23326	MWIL	09	13	1515	N05	W48	09	10.0	5	(AP)					
3890		PALE	09	13	1756	N05	W51	09	9.9		A	HSX	90	1	2	4
3890		MANI	09	13	2320	N05	W53	09	10.0			HSX	80	1	2	3
3890		LEAR	09	14	0229	N05	W56	09	9.9		A	HSX	60	1	2	3
3890		RAMY	09	14	1318	N04	W61	09	10.0		A	HSX	60	2	2	2
3890		HOLL	09	14	1506	N05	W62	09	10.0		A	HSX	30	1	2	4
3890	23326	MWIL	09	14	1530	N05	W62	09	10.0	4	(AP)					
3890		PALE	09	14	1900	N05	W65	09	9.9		A	HSX	60	1	2	3
3890		MANI	09	15	0045	N05	W66	09	10.1			HSX	100	1	2	2
3890		LEAR	09	15	0110	N04	W68	09	10.0		A	HSX	30	1	1	3
3890		HOLL	09	15	1410	N04	W76	09	9.9		A	AXX		1	1	3
		HOLL	09	10	1520	N10	W01	09	10.6		B	BXO	10	2	6	2
0005		LEAR	09	12	0057	S08	W15	09	10.9		A	AXX	10	3	2	3
0005		PALE	09	12	0110	S08	W14	09	11.0		A	AXX	10	1	1	2
3894		HOLL	09	04	1445	N16	E81	09	10.8		A	AXX		1		4
3894	23332	MWIL	09	04	1530	N16	E80	09	10.7	3	(AF)					
3894		PALE	09	04	1800	N16	E79	09	10.7		A	AXX		1		2
3894		LEAR	09	05	0025	N15	E75	09	10.7		A	AXX		1		2
3894		RAMY	09	05	1205	N18	E69	09	10.8		A	AXX	10	1	1	4
3894	23332	MWIL	09	05	1600	N16	E68	09	10.8	3	(AP)					
3894		HOLL	09	05	1700	N16	E67	09	10.8		A	AXX		1		2
3894		PALE	09	05	2240	N16	E65	09	10.9		A	AXX		1		3
3894		LEAR	09	06	0023	N16	E63	09	10.8		A	AXX		1		3
3894	23332	MWIL	09	06	1530	N16	E55	09	10.8	2	(AP)					
3894		PALE	09	06	1754	N16	E53	09	10.8		A	AXX	10	1	1	4
3894	23332	MWIL	09	07	1500	N15	E44	09	11.0	1	AP					
3895		RAMY	09	05	1205	S09	E82	09	11.7		B	EKO	310	2	15	4
3895	23335	MWIL	09	05	1600	S10	E80	09	11.7	3	(AP)					
3895		HOLL	09	05	1700	S09	E75	09	11.3		B	CHO	390	2	10	2
3895		PALE	09	05	2240	S10	E73	09	11.4		B	CHO	420	2	9	3
3895		LEAR	09	06	0023	S09	E71	09	11.3		B	CHO	500	2	11	3
3895	23335	MWIL	09	06	1530	S10	E65	09	11.5	5	(AP)					
3895		PALE	09	06	1754	S10	E65	09	11.6		B	CHO	380	3	3	4
3895		LEAR	09	07	0223	S11	E59	09	11.5		A	HHX	250	1	3	3
3895		RAMY	09	07	1223	S08	E56	09	11.7		B	CKO	420	6	8	2
3895	23335	MWIL	09	07	1500	S10	E53	09	11.6	5	(BP)					
3895		HOLL	09	07	1655	S09	E53	09	11.7		B	CSO	390	7	6	2
3895		BOUL	09	07	1700	S11	E51	09	11.5		B	CHO	530	14	8	2
3895		PALE	09	07	1806	S10	E52	09	11.7		BG	CKI	460	16	8	4
3895		LEAR	09	08	0233	S11	E46	09	11.6		B	CHO	510	20	6	3
3895		RAMY	09	08	1236	S10	E44	09	11.8		B	CHO	470	32	10	2
3895		BOUL	09	08	1415	S10	E41	09	11.7		B	CHO	400	22	8	2
3895		HOLL	09	08	1542	S09	E40	09	11.7		B	CHI	490	11	6	2
3895		PALE	09	08	1820	S10	E39	09	11.7		B	CHI	420	22	8	3
3895		LEAR	09	09	0055	S11	E34	09	11.6		B	DHI	440	21	8	3
3895	23335	MWIL	09	09	1500	S10	E25	09	11.5	5	(D)					
3895		RAMY	09	09	1510	S10	E26	09	11.6		B	CHO	460	13	10	2
3895		PALE	09	09	1830	S10	E24	09	11.6		B	CHO	370	11	8	2
3895		LEAR	09	10	0014	S13	E20	09	11.5		B	CHI	390	10	7	3
3895		BOUL	09	10	1414	S08	E11	09	11.4		B	CHO	300	5	7	3
3895		RAMY	09	10	1515	S10	E12	09	11.5		B	CHO	380	8	6	3
3895	23335	MWIL	09	10	1515	S10	E12	09	11.5	5	(BY)					
3895		HOLL	09	10	1520	S09	E11	09	11.5		B	CHO	440	9	7	2
3895		LEAR	09	11	0043	S10	E07	09	11.6		B	CHO	360	5	5	3
3895		RAMY	09	11	1200	S10	E02	09	11.7		B	DHO	410	12	7	3
3895		HOLL	09	11	1430	S10	W00	09	11.6		B	CHO	350	7	7	4
3895	23335	MWIL	09	11	1515	S10	W01	09	11.6	5	(BY)					
3895		MANI	09	11	2307	S10	W05	09	11.6			CHO	380	7	5	3

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3895		LEAR	09	12	0057	S10	W06	09	11.6		B	CHO	350	8	6	3
3895		PALE	09	12	0110	S10	W05	09	11.7		B	CKO	360	4	5	2
3895		BOUL	09	12	1434	S09	W15	09	11.5		B	CHO	300	4	8	2
3895	23335	MWIL	09	12	1600	S10	W16	09	11.5	5	(BP)					
3895		HOLL	09	12	1702	S10	W16	09	11.5		A	HHX	400	2	4	1
3895		PALE	09	12	1803	S10	W17	09	11.5		A	HKX	350	1	3	3
3895		MANI	09	12	2314	S10	W19	09	11.5			HHX	370	1	3	3
3895		LEAR	09	13	0212	S10	W22	09	11.4		B	CHO	350	4	4	3
3895		HOLL	09	13	1410	S10	W25	09	11.7		B	CHO	340	6	8	3
3895	23335	MWIL	09	13	1515	S10	W27	09	11.6	5	(BP)					
3895		PALE	09	13	1756	S09	W29	09	11.6		B	CHO	330	6	8	4
3895		MANI	09	13	2320	S10	W32	09	11.6			CHO	360	2	5	3
3895		LEAR	09	14	0229	S10	W35	09	11.5		A	HHX	260	1	3	3
3895		RAMY	09	14	1318	S11	W38	09	11.7		B	CHO	320	6	6	2
3895		HOLL	09	14	1506	S09	W40	09	11.6		B	CHO	320	4	6	4
3895	23335	MWIL	09	14	1530	S10	W41	09	11.6	6	(BP)					
3895		PALE	09	14	1900	S09	W41	09	11.7		B	CHO	270	2	6	3
3895		MANI	09	15	0045	S10	W45	09	11.6			CHO	360	2	5	2
3895		LEAR	09	15	0110	S10	W46	09	11.6		B	CHO	270	4	5	3
3895		HOLL	09	15	1410	S10	W55	09	11.5		A	HHX	330	1	4	3
3895		PALE	09	15	1938	S10	W58	09	11.5		A	HHX	240	1	3	3
3895		MANI	09	16	0324	S10	W65	09	11.3			CHO	150	3	4	2
3895		LEAR	09	16	0555	S10	W64	09	11.4		A	HHX	270	1	3	2
3895		RAMY	09	16	1320	S12	W69	09	11.4		A	HHX	310	1	3	4
3895		BOUL	09	16	1457	S10	W70	09	11.4		A	HSX	120	1	2	2
3895		HOLL	09	16	1500	S10	W70	09	11.4		A	HHX	290	1	3	4
3895		PALE	09	16	1720	S10	W69	09	11.5		A	HSX	280	1	2	3
3895		LEAR	09	17	0142	S09	W75	09	11.4		A	HHX	220	1	3	3
3895		HOLL	09	17	1445	S10	W79	09	11.7		A	HHX	140	1	4	4
3895		PALE	09	17	1740	S11	W82	09	11.6		A	HHX	120	1	3	4
3902		BOUL	09	10	1414	S21	E18	09	12.0		B	BXO	10	3	3	3
3902	23341	MWIL	09	10	1515	S21	E19	09	12.1	3	(BP)					
3902		RAMY	09	10	1515	S21	E20	09	12.2		B	BXO	30	7	4	3
3902		HOLL	09	10	1520	S21	E19	09	12.1		B	CRO	50	7	3	2
3902		LEAR	09	11	0043	S21	E15	09	12.2		B	DAO	60	9	5	3
3902		RAMY	09	11	1200	S21	E09	09	12.2		B	DKO	140	19	7	3
3902		HOLL	09	11	1430	S21	E06	09	12.1		B	DSI	160	19	7	4
3902	23341	MWIL	09	11	1515	S22	E07	09	12.2	4	(B)					
3902		MANI	09	11	2307	S21	E03	09	12.2			DSO	120	16	7	3
3902		LEAR	09	12	0057	S22	E01	09	12.1		B	DAI	210	18	6	3
3902		PALE	09	12	0110	S22	E02	09	12.2		B	DAO	210	13	7	2
3902		BOUL	09	12	1434	S21	W08	09	12.0		B	CSO	90	9	8	2
3902	23341	MWIL	09	12	1600	S23	W07	09	12.1	5	(B)					
3902		HOLL	09	12	1702	S22	W07	09	12.2		B	DAI	90	8	9	1
3902		PALE	09	12	1803	S22	W07	09	12.2		B	DAO	170	13	7	3
3902		MANI	09	12	2314	S21	W11	09	12.1			DSO	140	10	7	3
3902		LEAR	09	13	0212	S21	W13	09	12.1		B	DAO	180	18	9	3
3902		HOLL	09	13	1410	S22	W19	09	12.1		B	DSO		14	31	3
3902	23341	MWIL	09	13	1515	S22	W20	09	12.1	5	(B)					
3902		PALE	09	13	1756	S22	W22	09	12.1		B	DAO	140	9	9	4
3902		MANI	09	13	2320	S21	W24	09	12.1			DAO	110	9	7	3
3902		LEAR	09	14	0229	S23	W26	09	12.1		B	DSO	150	18	10	3
3902		RAMY	09	14	1318	S23	W30	09	12.2		B	DAO	100	5	10	2
3902		HOLL	09	14	1506	S22	W33	09	12.1		B	CSO	120	6	9	4
3902	23341	MWIL	09	14	1530	S22	W34	09	12.0	5	(B)					
3902		PALE	09	14	1900	S22	W36	09	12.0		B	CSO	100	5	9	3
3902		MANI	09	15	0045	S21	W37	09	12.2			CSO	100	6	7	2
3902		LEAR	09	15	0110	S22	W38	09	12.1		B	CSO	90	6	8	3
3902		HOLL	09	15	1410	S22	W46	09	12.1		B	CAO	120	4	9	3
3902		PALE	09	15	1938	S23	W49	09	12.0		B	CAO	70	2	8	3
3902		MANI	09	16	0324	S21	W59	09	11.6			CRO	80	4	5	2
3902		LEAR	09	16	0555	S23	W55	09	12.0		B	CSO	110	2	9	2
3902		RAMY	09	16	1320	S24	W63	09	11.7		B	CAO	130	3	4	4
3902		BOUL	09	16	1457	S22	W67	09	11.5		A	HSX	40	1	1	2
3902		HOLL	09	16	1500	S24	W65	09	11.6		A	HSX	60	1	1	4
3902		PALE	09	16	1720	S22	W65	09	11.7		A	HSX	90	3	1	3
3902		LEAR	09	17	0142	S23	W69	09	11.8		A	HSX	30	1	2	3
0006		RAMY	09	16	1320	N03	W22	09	14.9		B	BXO	10	2	3	4
0006		HOLL	09	16	1500	N03	W23	09	14.9		A	AXX		1		4

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3909		LEAR	09	15	0110	N17	E06	09	15.5		B	BXO	10	4	3	3
3909		HOLL	09	15	1410	N17	W02	09	15.4		B	BXO	20	6	4	3
3909		PALE	09	15	1938	N17	W04	09	15.5		B	CRO	30	6	5	3
3909		LEAR	09	16	0555	N17	W11	09	15.4		B	CRO	20	10	6	2
3909		RAMY	09	16	1320	N18	W14	09	15.5		B	DAO	30	10	8	4
3909		BOUL	09	16	1457	N17	W13	09	15.6		B	CSO	30	11	7	2
3909		HOLL	09	16	1500	N18	W15	09	15.5		B	CRO	20	10	7	4
3909		PALE	09	16	1720	N18	W16	09	15.5		B	DSO	30	12	8	3
3909		LEAR	09	17	0142	N18	W21	09	15.5		B	CRI	60	25	7	3
3909		HOLL	09	17	1445	N18	W28	09	15.5		B	DAO	80	11	6	4
3909		PALE	09	17	1740	N16	W29	09	15.5		B	DSO	80	12	6	4
3909		MANI	09	17	2343	N16	W32	09	15.6			DRO	50	8	6	3
3909		LEAR	09	18	0030	N17	W34	09	15.4		B	DRO	30	10	7	3
3909		RAMY	09	18	1345	N16	W40	09	15.5		B	CAO	40	7	8	3
3909		PALE	09	18	1920	N18	W44	09	15.5		B	BXO	30	7	9	3
3909		LEAR	09	19	0114	N17	W47	09	15.5		B	BXO	30	6	9	3
3909		RAMY	09	19	1241	N15	W55	09	15.4		B	BXO	70	5	8	2
3909		HOLL	09	19	1435	N17	W55	09	15.4		B	BXO	10	1	9	2
3909		LEAR	09	20	0138	N18	W57	09	15.7		A	AXX		1		3
3909		RAMY	09	20	1241	N18	W67	09	15.4		A	AXX	20	1	1	2
3909		HOLL	09	20	1428	N18	W65	09	15.6		A	AXX		1		3
3909		BOUL	09	20	1506	N18	W66	09	15.6		A	AXX		1		2
3909	23347	MWIL	09	20	1600	N18	W67	09	15.6	3	(AF)					
3901	23340	MWIL	09	09	1500	S13	E80	09	15.7	2	B					
3901		RAMY	09	09	1510	S11	E81	09	15.7		A	HSX	40	1	2	2
3901		PALE	09	09	1830	S12	E81	09	15.9		A	HSX	60	1	1	2
3901		LEAR	09	10	0014	S12	E80	09	16.0		B	DSO	160	4	9	3
3901		BOUL	09	10	1414	S13	E70	09	15.9		B	DAO	120	6	8	3
3901		RAMY	09	10	1515	S12	E70	09	15.9		B	DAO	310	11	10	3
3901	23340	MWIL	09	10	1515	S12	E70	09	15.9	4	(B)					
3901		HOLL	09	10	1520	S13	E70	09	15.9		B	DAO	240	11	9	2
3901		LEAR	09	11	0043	S11	E66	09	16.0		B	DAO	320	13	10	3
3901		RAMY	09	11	1200	S12	E59	09	15.9		B	EKO	260	17	11	3
3901		HOLL	09	11	1430	S13	E57	09	15.9		B	DAI	340	21	10	4
3901	23340	MWIL	09	11	1515	S12	E57	09	15.9	4	(B)					
3901		MANI	09	11	2307	S13	E52	09	15.9			DAO	200	14	10	3
3901		LEAR	09	12	0057	S12	E52	09	16.0		BG	EAI	370	20	11	3
3901		PALE	09	12	0110	S12	E53	09	16.0		B	ESI	190	22	11	2
3901		BOUL	09	12	1434	S13	E42	09	15.8		B	DSO	110	10	9	2
3901	23340	MWIL	09	12	1600	S12	E43	09	15.9	4	(D)					
3901		HOLL	09	12	1702	S12	E42	09	15.9		B	EAI	180	11	11	1
3901		PALE	09	12	1803	S13	E43	09	16.0		B	DSO	140	22	10	3
3901		MANI	09	12	2314	S13	E38	09	15.8			DAO	210	15	10	3
3901		LEAR	09	13	0212	S13	E36	09	15.8		BGD	ESO	220	29	11	3
3901		HOLL	09	13	1410	S13	E33	09	16.1		BGD	EAI	190	20	12	3
3901	23340	MWIL	09	13	1515	S12	E30	09	15.9	5	(D)					
3901		PALE	09	13	1756	S14	E30	09	16.0		BGD	EAI	160	30	11	4
3901		MANI	09	13	2320	S13	E27	09	16.0			EAI	220	25	11	3
3901		LEAR	09	14	0229	S13	E24	09	15.9		BG	ESO	150	26	11	3
3901		RAMY	09	14	1318	S12	E20	09	16.1		BGD	EAO	110	16	12	2
3901		HOLL	09	14	1506	S13	E18	09	16.0		BGD	ESI	150	20	11	4
3901	23340	MWIL	09	14	1530	S13	E17	09	15.9	5	(D)					
3901		PALE	09	14	1900	S13	E17	09	16.1		BGD	ESI	120	16	12	3
3901		MANI	09	15	0045	S13	E14	09	16.1			DSO	120	16	10	2
3901		LEAR	09	15	0110	S14	E13	09	16.0		BG	EAI	90	18	11	3
3901		HOLL	09	15	1410	S13	E06	09	16.0		BG	CSI	110	20	10	3
3901		PALE	09	15	1938	S13	E03	09	16.0		BG	DSO	100	21	10	3
3901		MANI	09	16	0324	S13	E07	09	16.7			CSO	100	13	12	2
3901		LEAR	09	16	0555	S13	W03	09	16.0		B	CAO	30	21	10	2
3901		RAMY	09	16	1320	S14	W08	09	16.0		BG	EAO	50	15	11	4
3901		BOUL	09	16	1457	S13	W08	09	16.0		B	CSO	30	7	11	2
3901		HOLL	09	16	1500	S12	W10	09	15.9		B	CAO	40	8	11	4
3901		PALE	09	16	1720	S15	W09	09	16.0		B	CSO	50	12	11	3
3901		LEAR	09	17	0142	S13	W19	09	15.6		A	HSX	10	2	1	3
3901		HOLL	09	17	1445	S10	W23	09	15.9		A	AXX	10	1		4
3901		PALE	09	17	1740	S14	W28	09	15.6		A	AXX	10	1		4
3905	23342	MWIL	09	12	1600	S14	E75	09	18.3	2	(AP)					
3905		HOLL	09	12	1702	S16	E75	09	18.4		A	AXX	10	2	2	1
3905		PALE	09	12	1803	S16	E76	09	18.5		A	AXX	10	2	1	3

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NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Time Mo	Day	(UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10^{-6} Hem!)	Spot Count	Long. Extent (Deg)	Qual
3905		MANI	09	12	2314	S16	E71	09	18.4			HRX	20	2	1	3
3905		LEAR	09	13	0212	S15	E66	09	18.1		B	BXO	20	5	6	3
3905		HOLL	09	13	1410	S16	E64	09	18.4		B	DAI	80	16	7	3
3905	23342	MWIL	09	13	1515	S16	E61	09	18.3	3	(BP)					
3905		PALE	09	13	1756	S16	E63	09	18.5		B	CRI	80	13	7	4
3905		MANI	09	13	2320	S16	E59	09	18.5			CRO	80	10	6	3
3905		LEAR	09	14	0229	S15	E55	09	18.3		B	CSO	40	13	7	3
3905		RAMY	09	14	1318	S15	E50	09	18.3		B	DAO	70	4	8	2
3905		HOLL	09	14	1506	S15	E49	09	18.3		B	CSO	60	8	9	4
3905	23342	MWIL	09	14	1530	S15	E47	09	18.2	5	(BP)					
3905		PALE	09	14	1900	S15	E47	09	18.4		B	CSO	110	13	8	3
3905		MANI	09	15	0045	S16	E46	09	18.5			CSO	50	10	9	2
3905		LEAR	09	15	0110	S16	E44	09	18.4		B	CAI	90	1	9	3
3905		HOLL	09	15	1410	S15	E36	09	18.3		B	CSO	130	10	9	3
3905		PALE	09	15	1938	S16	E33	09	18.3		B	CSO	100	11	10	3
3905		MANI	09	16	0324	S16	E25	09	18.0			DSO	140	4	11	2
3905		LEAR	09	16	0555	S16	E26	09	18.2		B	CSO	120	13	9	2
3905		RAMY	09	16	1320	S16	E23	09	18.3		B	DAO	110	20	9	4
3905		BOUL	09	16	1457	S15	E18	09	18.0		B	CSO	50	6	5	2
3905		HOLL	09	16	1500	S15	E20	09	18.1		B	DAO	130	15	9	4
3905		PALE	09	16	1720	S16	E21	09	18.3		B	DSO	80	17	8	3
3905		LEAR	09	17	0142	S15	E16	09	18.3		B	DAI	110	26	8	3
3905		HOLL	09	17	1445	S13	E12	09	18.5		B	DAO	130	17	7	4
3905		PALE	09	17	1740	S17	E08	09	18.3		B	DAO	130	24	7	4
3905		MANI	09	17	2343	S16	E05	09	18.4			DAO	160	20	9	3
3905		LEAR	09	18	0030	S16	E03	09	18.2		B	DAO	150	27	7	3
3905		RAMY	09	18	1345	S14	W06	09	18.1		B	DAO	90	6	4	3
3905		PALE	09	18	1920	S17	W07	09	18.3		B	DAO	70	12	8	3
3905		LEAR	09	19	0114	S16	W12	09	18.1		B	CAO	100	15	7	3
3905		RAMY	09	19	1241	S16	W19	09	18.1		B	CSO	50	6	3	2
3905		HOLL	09	19	1435	S16	W22	09	17.9		B	DAO	60	8	3	2
3905	23342	MWIL	09	19	1700	S15	W21	09	18.1	4	AP					
3905		BOUL	09	19	1720	S16	W24	09	17.9		B	DSO	20	6	7	2
3905		PALE	09	19	1940	S15	W22	09	18.2		B	DSO	20	2	1	2
3905		LEAR	09	20	0138	S16	W25	09	18.2		B	CSO	50	4	6	3
3905		RAMY	09	20	1241	S18	W30	09	18.2		B	DSO	80	3	8	2
3905		HOLL	09	20	1428	S17	W32	09	18.2		B	CRO	40	3	6	3
3905		BOUL	09	20	1506	S16	W32	09	18.2		B	DSO	30	7	8	2
3905	23342	MWIL	09	20	1600	S16	W32	09	18.2	4	(B)					
3905		PALE	09	20	1850	S16	W34	09	18.2		B	CRO	30	4	7	3
3905		LEAR	09	21	0005	S16	W40	09	18.0		A	HRX	20	2	2	4
3905		MANI	09	21	0009	S16	W36	09	18.3			CRO	30	3	3	2
3905		RAMY	09	21	1215	S17	W46	09	18.0		B	CSO	70	3	3	4
3905		BOUL	09	21	1423	S14	W46	09	18.1		B	BXO	10	3	4	3
3905	23342	MWIL	09	21	1600	S16	W48	09	18.0	3	(AP)					
3905		PALE	09	21	1705	S15	W48	09	18.1		A	AXX	10	1		3
3905		MANI	09	22	0028	S15	W52	09	18.1			BXO	20	2	3	2
3905		LEAR	09	22	0130	S14	W53	09	18.1		B	BXO		2	3	3
3905		BOUL	09	22	1415	S13	W62	09	17.9		A	AXX	10	1	1	8
3905		HOLL	09	22	1440	S16	W60	09	18.1		A	AXX	10	1		3
3905	23342	MWIL	09	22	1530	S17	W61	09	18.0	4	(AP)					
3905		PALE	09	22	1818	S15	W64	09	17.9		A	AXX	10	1	1	3
3905		MANI	09	23	0035	S15	W66	09	18.0			AXX	10	1	1	2
3905		LEAR	09	23	0120	S15	W67	09	18.0		A	HRX	10	1	1	3
3905		HOLL	09	23	1540	S16	W76	09	17.9		A	AXX		1		3
3906		HOLL	09	13	1410	N02	E62	09	18.2		A	AXX		1		3
3906	23343	MWIL	09	13	1515	N02	E61	09	18.2	3	(AF)					
3906		PALE	09	13	1756	N02	E60	09	18.2		B	BXO	20	3	3	4
3906		MANI	09	13	2320	N02	E57	09	18.2			BXO	20	4	3	3
3906		LEAR	09	14	0229	N02	E55	09	18.2		B	CRO	30	4	4	3
3906		RAMY	09	14	1318	N03	E48	09	18.1		B	CSO	10	3	3	2
3906		HOLL	09	14	1506	N02	E48	09	18.2		B	CRO	50	4	5	4
3906	23343	MWIL	09	14	1530	N02	E48	09	18.2	4	(B)					
3906		PALE	09	14	1900	N02	E47	09	18.3		B	DAO	60	3	6	3
3906		MANI	09	15	0045	N02	E44	09	18.3			CSO	30	6	5	2
3906		LEAR	09	15	0110	N01	E43	09	18.3		B	DSO	50	3	6	3
3906		HOLL	09	15	1410	N02	E35	09	18.2		B	DSO	90	7	7	3
3906		PALE	09	15	1938	N01	E33	09	18.3		B	DSO	70	11	6	3
3906		MANI	09	16	0324	N02	E28	09	18.2			CSO	180	13	5	2
3906		LEAR	09	16	0555	N01	E26	09	18.2		B	DSO	60	13	6	2

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3906		RAMY	09	16	1320	N03 E23	09	18.3		B	DAO	130	21	7	4
3906		BOUL	09	16	1457	N03 E20	09	18.1		B	DSO	50	8	6	2
3906		HOLL	09	16	1500	N02 E20	09	18.1		B	DAO	90	13	6	4
3906		PALE	09	16	1720	N02 E21	09	18.3		B	DSO	60	10	5	3
3906		LEAR	09	17	0142	N01 E16	09	18.3		B	DAO	110	7	6	3
3906		HOLL	09	17	1445	N03 E09	09	18.3		B	DSO	80	10	4	4
3906		PALE	09	17	1740	N01 E06	09	18.2		B	DSO	80	17	5	4
3906		MANI	09	17	2343	N02 E03	09	18.2			DAO	70	11	5	3
3906		LEAR	09	18	0030	N01 E02	09	18.2		B	DAO	90	21	6	3
3906		RAMY	09	18	1345	N03 W05	09	18.2		B	CAO	40	7	6	3
3906		PALE	09	18	1920	S01 W07	09	18.3		B	DSO	50	7	7	3
3906		LEAR	09	19	0114	N02 W12	09	18.2		B	BXO	40	9	6	3
3906		RAMY	09	19	1241	N02 W17	09	18.3		B	BXO	40	5	5	2
3906		HOLL	09	19	1435	N02 W19	09	18.2		B	BXO	10	4	5	2
3906		LEAR	09	20	0138	S01 W27	09	18.1		A	AXX		1		3
3907		HOLL	09	13	1410	S09 E87	09	20.1		A	HSX	100	1	2	3
3907	23344	MWIL	09	13	1515	S10 E82	09	19.8	2	(AP)					
3907		PALE	09	13	1756	S11 E85	09	20.1		B	CHO	180	3	7	4
3907		LEAR	09	14	0229	S11 E77	09	19.9		A	HKX	250	2	5	3
3907		RAMY	09	14	1318	S09 E74	09	20.1		B	DKO	390	6	7	2
3907		HOLL	09	14	1506	S09 E71	09	20.0		A	HHX	380	4	5	4
3907	23344	MWIL	09	14	1530	S10 E70	09	19.9	4	(AP)					
3907		PALE	09	14	1900	S10 E70	09	20.1		B	CHO	260	3	6	3
3907		MANI	09	15	0045	S11 E70	09	20.3			HAX	70	5	3	2
3907		LEAR	09	15	0110	S10 E66	09	20.0		A	HKX	400	4	4	3
3907		HOLL	09	15	1410	S09 E58	09	19.9		BD	DKC	260	4	5	3
3907		MANI	09	16	0324	S11 E51	09	20.0			HAX	390	4	3	2
3907		LEAR	09	16	0555	S10 E49	09	19.9		BD	CKC	350	6	6	2
3907		RAMY	09	16	1320	S08 E46	09	20.0		B	DKO	340	16	7	4
3907		BOUL	09	16	1457	S10 E45	09	20.0		BD	DKI	210	6	9	2
3907		HOLL	09	16	1500	S10 E45	09	20.0		BD	DKI	350	11	8	4
3907		PALE	09	16	1720	S11 E44	09	20.0		BD	CKI	230	10	6	3
3907		LEAR	09	17	0142	S10 E39	09	20.0		B	DKC	290	16	5	3
3907		HOLL	09	17	1445	S05 E34	09	20.2		B	DHI	210	8	5	4
3907		PALE	09	17	1740	S11 E31	09	20.1		B	DSO	220	7	4	4
3907		MANI	09	17	2343	S10 E29	09	20.2			DHO	320	14	8	3
3907		LEAR	09	18	0030	S10 E26	09	20.0		B	DKI	340	16	7	3
3907		RAMY	09	18	1345	S10 E19	09	20.0		B	DKO	150	10	7	3
3907		PALE	09	18	1920	S11 E16	09	20.0		B	DSO	170	11	7	3
3907		LEAR	09	19	0114	S12 E13	09	20.0		B	DKI	290	21	6	3
3907		RAMY	09	19	1241	S10 E08	09	20.1		B	DHI	230	23	6	2
3907		HOLL	09	19	1435	S11 E06	09	20.1		B	CSI	230	2	6	2
3907	23344	MWIL	09	19	1700	S10 E04	09	20.0	5	BP					
3907		BOUL	09	19	1720	S10 E03	09	19.9		B	DHI	210	16	7	2
3907		PALE	09	19	1940	S12 E02	09	20.0		B	DSO	170	9	8	2
3907		LEAR	09	20	0138	S12 E01	09	20.1		B	DSI	250	28	10	3
3907		RAMY	09	20	1241	S13 W05	09	20.2		B	DSI	250	34	9	2
3907		HOLL	09	20	1428	S12 W07	09	20.1		B	DSI	260	25	8	3
3907		BOUL	09	20	1506	S12 W07	09	20.1		BG	DSI	130	23	8	2
3907	23344	MWIL	09	20	1600	S12 W07	09	20.1	5	(BP)					
3907		PALE	09	20	1850	S12 W09	09	20.1		B	DAI	190	21	8	3
3907		LEAR	09	21	0005	S12 W12	09	20.1		B	DSI	260	27	8	4
3907		MANI	09	21	0009	S11 W12	09	20.1			DSI	330	23	8	2
3907		RAMY	09	21	1215	S13 W19	09	20.1		B	DKI	270	36	9	4
3907		BOUL	09	21	1423	S11 W19	09	20.2		BG	ESI	180	31	12	3
3907	23344	MWIL	09	21	1600	S12 W21	09	20.1	5	(BP)					
3907		PALE	09	21	1705	S12 W21	09	20.1		BG	DSI	160	27	8	3
3907		MANI	09	22	0028	S11 W25	09	20.1			DSI	380	21	8	2
3907		LEAR	09	22	0130	S12 W26	09	20.1		B	DSI	200	21	8	3
3907		BOUL	09	22	1415	S10 W34	09	20.0		B	DSO	200	20	8	8
3907		HOLL	09	22	1440	S13 W34	09	20.0		B	DSO	500	29	8	3
3907	23344	MWIL	09	22	1530	S13 W35	09	20.0	4	(BP)					
3907		PALE	09	22	1818	S13 W36	09	20.0		B	DSO	130	23	7	3
3907		MANI	09	23	0035	S13 W40	09	20.0			DSO	350	22	8	2
3907		LEAR	09	23	0120	S12 W39	09	20.1		B	DSI	190	16	7	3
3907		BOUL	09	23	1440	S13 W47	09	20.1		B	DSO	120	13	7	3
3907	23344	MWIL	09	23	1525	S13 W48	09	20.0	5	(BP)					
3907		HOLL	09	23	1540	S13 W47	09	20.1		B	DSO	130	11	8	3
3907		PALE	09	23	1953	S13 W50	09	20.1		B	DSO	120	12	6	2
3907		LEAR	09	24	0055	S12 W54	09	20.0		B	DSO	130	8	7	3

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3907		RAMY	09	24	1350	S15	W60	09	20.0		B	CAO	140	6	5	3
3907		BOUL	09	24	1445	S12	W62	09	19.9		B	CSO	70	3	8	3
3907		HOLL	09	24	1520	S13	W61	09	20.0		B	DAO	90	5	6	3
3907		MANI	09	24	2312	S13	W67	09	19.9			CSO	160	3	4	2
3907		LEAR	09	25	0228	S12	W68	09	20.0		B	CSO	70	2	5	3
3907		RAMY	09	25	1319	S12	W75	09	19.9		A	HSX	90	1	2	1
3907		PALE	09	25	1950	S11	W85	09	19.4		A	HSX	40	1	2	3
3907		MANI	09	25	2353	S13	W82	09	19.8			HSX	90	1	2	2
3908		PALE	09	13	1756	N18	E90	09	20.6		B	BXO	20	2	3	4
3908		MANI	09	13	2320	N17	E87	09	20.6			HAX	200	1	2	3
3908		LEAR	09	14	0229	N18	E80	09	20.2		A	HSX	250	1	2	3
3908		RAMY	09	14	1318	N11	E80	09	20.6		B	DKO	250	4	5	2
3908		HOLL	09	14	1506	N19	E78	09	20.6		B	DSO	260	5	6	4
3908	23345	MWIL	09	14	1530	N18	E78	09	20.6	4	(AP)					
3908		PALE	09	14	1900	N19	E78	09	20.7		B	DSO	300	4	7	3
3908		MANI	09	15	0045	N17	E73	09	20.6			DAI	100	8	6	2
3908		LEAR	09	15	0110	N18	E74	09	20.7		B	DAI	290	8	9	3
3908		HOLL	09	15	1410	N18	E65	09	20.5		B	DKO	250	7	7	3
3908		PALE	09	15	1938	N18	E62	09	20.5		B	DKI	240	11	7	3
3908		MANI	09	16	0324	N17	E59	09	20.6			DAI	650	6	9	2
3908		LEAR	09	16	0555	N18	E56	09	20.5		B	DKO	240	5	6	2
3908		RAMY	09	16	1320	N21	E53	09	20.6		B	DKO	260	10	7	4
3908		BOUL	09	16	1457	N18	E51	09	20.5		B	DSO	210	4	5	2
3908		HOLL	09	16	1500	N20	E51	09	20.5		B	DKI	220	7	7	4
3908		PALE	09	16	1720	N19	E51	09	20.6		B	DSO	220	4	5	3
3908		LEAR	09	17	0142	N19	E46	09	20.6		B	DAI	230	9	6	3
3908		HOLL	09	17	1445	N20	E36	09	20.4		B	DAO	140	10	7	4
3908		PALE	09	17	1740	N19	E38	09	20.6		B	DSO	150	13	7	4
3908		MANI	09	17	2343	N18	E32	09	20.4			DKI	230	15	7	3
3908		LEAR	09	18	0030	N19	E34	09	20.6		B	DAI	220	15	6	3
3908		RAMY	09	18	1345	N20	E27	09	20.6		B	DAO	140	14	6	3
3908		PALE	09	18	1920	N19	E23	09	20.6		B	DAO	170	10	8	3
3908		LEAR	09	19	0114	N18	E19	09	20.5		B	DSO	190	17	8	3
3908		RAMY	09	19	1241	N20	E13	09	20.5		B	DKO	270	29	8	2
3908		HOLL	09	19	1435	N20	E13	09	20.6		BD	EAI	210	21	12	2
3908	23345	MWIL	09	19	1700	N19	E12	09	20.6	5	BP					
3908		BOUL	09	19	1720	N20	E11	09	20.6		B	DKO	260	20	12	2
3908		PALE	09	19	1940	N18	E10	09	20.6		BD	DAI	240	10	7	2
3908		LEAR	09	20	0138	N18	E08	09	20.7		B	CKO	240	21	8	3
3908		RAMY	09	20	1241	N20	W02	09	20.4		B	DKO	300	19	6	2
3908		HOLL	09	20	1428	N18	E01	09	20.7		B	EKI	280	17	11	3
3908		BOUL	09	20	1506	N19	E01	09	20.7		BG	EKI	190	24	12	2
3908	23345	MWIL	09	20	1600	N19	W02	09	20.5	4	(D)					
3908		PALE	09	20	1850	N19	W02	09	20.6		BG	EKO	260	18	12	3
3908		LEAR	09	21	0005	N18	W06	09	20.5		B	DKO	250	14	7	4
3908		MANI	09	21	0009	N18	W04	09	20.7			DKO	310	17	10	2
3908		RAMY	09	21	1215	N18	W13	09	20.5		BG	DKO	290	23	8	4
3908		BOUL	09	21	1423	N20	W15	09	20.5		B	DKI	170	10	6	3
3908	23345	MWIL	09	21	1600	N19	W15	09	20.5	4	(BP)					
3908		PALE	09	21	1705	N19	W17	09	20.4		B	DKI	210	13	6	3
3908		MANI	09	22	0028	N19	W19	09	20.6			DKO	300	13	6	2
3908		LEAR	09	22	0130	N19	W20	09	20.5		B	DSI	160	12	6	3
3908		BOUL	09	22	1415	N21	W27	09	20.5		B	DSO	90	10	6	8
3908		HOLL	09	22	1440	N19	W28	09	20.5		B	DSO	150	26	7	3
3908	23345	MWIL	09	22	1530	N19	W27	09	20.6	4	(B)					
3908		PALE	09	22	1818	N19	W28	09	20.6		B	DSO	110	13	5	3
3908		MANI	09	23	0035	N19	W33	09	20.5			DSO	150	11	6	2
3908		LEAR	09	23	0120	N19	W34	09	20.5		B	DSI	90	15	7	3
3908		BOUL	09	23	1440	N20	W40	09	20.5		B	CSO	50	7	5	3
3908	23345	MWIL	09	23	1525	N19	W41	09	20.5	4	(B)					
3908		HOLL	09	23	1540	N19	W42	09	20.4		B	CRO	60	9	7	3
3908		PALE	09	23	1953	N20	W43	09	20.5		B	CRO	40	6	6	2
3908		LEAR	09	24	0055	N19	W47	09	20.4		B	CRO	20	2	5	3
3908		RAMY	09	24	1350	N18	W55	09	20.4		B	BXO	40	4	7	3
3908		BOUL	09	24	1445	N20	W55	09	20.4		B	BXO	30	3	6	3
3908		HOLL	09	24	1520	N18	W54	09	20.5		B	CAO	20	5	5	3
3908		MANI	09	24	2312	N19	W61	09	20.3			AXX	10	2	1	2
3908		LEAR	09	25	0228	N20	W58	09	20.7		A	AXX		1		3
3908		RAMY	09	25	1319	N18	W71	09	20.1		A	AXX	10	1	1	1
3908		MANI	09	25	2353	N19	W74	09	20.3			AXX	10	1		2

REGIONS OF SUNSPOT ACTIVITY
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

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NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Time Mo	Day	(UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10^{-6} Hem)	Spot Count	Long. Extent (Deg)	Qual
3908		LEAR	09	26	0343	N16	W76	09	20.4		A	AXX		1		3
3912		HOLL	09	19	1435	S10	E28	09	21.7		B	BXO		2	3	2
3912		BOUL	09	19	1720	S10	E25	09	21.6		B	BXO		2	2	2
3912		LEAR	09	20	0138	S12	E22	09	21.7		A	AXX		1		3
3912		BOUL	09	20	1506	S09	E08	09	21.2		B	BXO		3	4	2
3910		LEAR	09	15	0110	N13	E85	09	21.5		B	BXO	10	5	7	3
3910		HOLL	09	15	1410	N14	E78	09	21.5		A	HKX	170	2	5	3
3910		PALE	09	15	1938	N13	E77	09	21.6		B	DKO	170	4	5	3
3910		MANI	09	16	0324	N11	E73	09	21.6			DAI	220	3	6	2
3910		LEAR	09	16	0555	N13	E68	09	21.4		B	DAI	170	6	5	2
3910		RAMY	09	16	1320	N16	E68	09	21.7		B	DKO	270	13	7	4
3910		BOUL	09	16	1457	N12	E63	09	21.4		B	DSI	110	8	7	2
3910		HOLL	09	16	1500	N14	E65	09	21.5		B	DSO	220	7	5	4
3910		PALE	09	16	1720	N13	E62	09	21.4		B	DSI	210	9	6	3
3910		LEAR	09	17	0142	N13	E59	09	21.5		B	DAI	280	11	7	3
3910		HOLL	09	17	1445	N14	E50	09	21.4		B	DSO	160	4	6	4
3910		PALE	09	17	1740	N15	E52	09	21.7		B	DSO	160	15	8	4
3910		MANI	09	17	2343	N13	E46	09	21.5			DSO	150	9	8	3
3910		LEAR	09	18	0030	N14	E46	09	21.5		B	DAI	260	11	7	3
3910		RAMY	09	18	1345	N15	E41	09	21.7		B	EKO	120	12	11	3
3910		PALE	09	18	1920	N14	E38	09	21.7		B	DSO	200	10	10	3
3910		LEAR	09	19	0114	N14	E35	09	21.7		B	EAO	240	20	13	3
3910		RAMY	09	19	1241	N16	E30	09	21.8		B	DAO	250	27	13	2
3910		HOLL	09	19	1435	N16	E29	09	21.8		B	EAO	290	28	14	2
3910	23346	MWIL	09	19	1700	N14	E28	09	21.8	5	BP					
3910		BOUL	09	19	1720	N14	E24	09	21.5		B	EAO	220	14	14	2
3910		PALE	09	19	1940	N13	E28	09	21.9		B	EAO	250	8	12	2
3910		LEAR	09	20	0138	N15	E23	09	21.8		B	EAO	260	23	14	3
3910		RAMY	09	20	1241	N17	E17	09	21.8		B	EKO	260	33	13	2
3910		HOLL	09	20	1428	N15	E16	09	21.8		B	EAO	220	25	15	3
3910		BOUL	09	20	1506	N13	E10	09	21.4		B	CAO	100	8	5	2
3910	23346	MWIL	09	20	1600	N14	E14	09	21.7	4	(BP)					
3910		PALE	09	20	1850	N15	E14	09	21.8		B	EKO	190	20	15	3
3910		LEAR	09	21	0005	N13	E06	09	21.5		B	DAI	100	13	5	4
3910		MANI	09	21	0009	N13	E09	09	21.7			EKO	240	17	15	2
3910		RAMY	09	21	1215	N14	W00	09	21.5		B	DKO	160	23	8	4
3910		BOUL	09	21	1423	N12	W03	09	21.4		A	CSI	70	16	6	3
3910	23346	MWIL	09	21	1600	N14	E01	09	21.7	4	(BP)					
3910		PALE	09	21	1705	N13	W03	09	21.5		B	DAO	60	15	7	3
3910		MANI	09	22	0028	N13	W07	09	21.5			DKI	250	23	7	2
3910		LEAR	09	22	0130	N13	W07	09	21.5			CRI	70	22	8	3
3910		BOUL	09	22	1415	N17	W13	09	21.6		B	CRO	60	11	8	8
3910		HOLL	09	22	1440	N13	W14	09	21.6		B	CRO	200	23	7	3
3910	23346	MWIL	09	22	1530	N15	W13	09	21.7	4	(BY)					
3910		PALE	09	22	1818	N13	W16	09	21.6		B	DSO	80	22	6	3
3910		MANI	09	23	0035	N13	W20	09	21.5			DKO	120	19	7	2
3910		LEAR	09	23	0120	N14	W20	09	21.5		B	DAI	70	21	7	3
3910		BOUL	09	23	1440	N16	W24	09	21.8		BG	ESI	50	22	13	3
3910	23346	MWIL	09	23	1525	N15	W26	09	21.7	3	(BY)					
3910		HOLL	09	23	1540	N13	W26	09	21.7		BG	EAI	100	20	11	3
3910		PALE	09	23	1953	N14	W29	09	21.6		BG	DAO	120	14	10	2
3910		LEAR	09	24	0055	N15	W31	09	21.7		B	DAO	70	12	10	3
3910		RAMY	09	24	1350	N13	W39	09	21.6		B	BXO	50	10	9	3
3910		BOUL	09	24	1445	N16	W38	09	21.7		B	CSO	50	18	16	3
3910		HOLL	09	24	1520	N14	W40	09	21.6		BG	DAI	50	12	10	3
3910		MANI	09	24	2312	N15	W46	09	21.5			DAO	170	11	10	2
3910		LEAR	09	25	0228	N15	W46	09	21.6		B	BXI	70	13	10	3
3910		RAMY	09	25	1319	N14	W55	09	21.4		B	CSO	70	7	8	1
3910		PALE	09	25	1950	N13	W59	09	21.4		B	CSO	20	3	9	3
3910		MANI	09	25	2353	N15	W60	09	21.4			CRO	30	4	6	2
3910		LEAR	09	26	0343	N14	W67	09	21.1		A	AXX		1		3
		HOLL	09	23	1540	N24	W24	09	21.8		A	AXX		1		3
3914		HOLL	09	20	1428	N16	E20	09	22.1		B	CSO	50	9	5	3
3914		BOUL	09	20	1506	N16	E18	09	22.0		B	DAO	90	13	5	2
3914		LEAR	09	21	0005	N15	E15	09	22.1		B	DRI	60	13	7	4
3914		RAMY	09	21	1215	N16	E08	09	22.1		B	CKO	100	12	7	4
3914		BOUL	09	21	1423	N17	E08	09	22.2		B	CSO	50	13	13	3

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3914		PALE	09	21	1705	N15	E06	09	22.2		B	CSO	50	11	6	3
3914		MANI	09	22	0028	N15	W00	09	22.0			CSO	90	8	5	2
3914		LEAR	09	22	0130	N15	W01	09	22.0		A	HSX	50	5	2	3
3914		BOUL	09	22	1415	N18	W08	09	22.0		A	HRX	20	2	2	8
3914		HOLL	09	22	1440	N16	W07	09	22.1		B	CRO	40	6	5	3
3914		PALE	09	22	1818	N15	W10	09	22.0		A	HAX	40	2	2	3
3914		MANI	09	23	0035	N15	W13	09	22.0			CSO	60	3	3	2
3914		LEAR	09	23	0120	N16	W14	09	22.0		A	HSX	40	3	2	3
3913		HOLL	09	19	1435	S08	E38	09	22.5		B	BXO	10	3	3	2
3913		BOUL	09	19	1720	S08	E36	09	22.4		A	AXX		1		2
3913		LEAR	09	20	0138	S08	E32	09	22.5		B	BXO	30	7	4	3
3913		RAMY	09	20	1241	S07	E26	09	22.5		B	BXO	50	4	5	2
3913		HOLL	09	20	1428	S08	E24	09	22.4		B	BXO	20	5	6	3
3913		BOUL	09	20	1506	S08	E24	09	22.4		B	CRO	10	8	6	2
3913	23348	MWIL	09	20	1600	S09	E23	09	22.4	3	(B)					
3913		PALE	09	20	1850	S09	E23	09	22.5		B	BXO	20	5	4	3
3913		LEAR	09	21	0005	S09	E19	09	22.4		B	BXO	20	7	6	4
3913		MANI	09	21	0009	S09	E20	09	22.5			CRO	40	7	7	2
3913		RAMY	09	21	1215	S08	E13	09	22.5		B	DRO	80	6	6	4
3913		BOUL	09	21	1423	S07	E10	09	22.3		B	BXO	10	3	6	3
3913	23348	MWIL	09	21	1600	S09	E11	09	22.5	3	(B)					
3913		PALE	09	21	1705	S09	E10	09	22.5		B	BXO	10	3	5	3
3913		MANI	09	22	0028	S09	E05	09	22.4			BXO	10	3	5	2
3913		LEAR	09	22	0130	S08	E02	09	22.2		A	AXX		1		3
3913		BOUL	09	22	1415	S07	W02	09	22.4		B	BXO	10	2	3	8
3913		HOLL	09	22	1440	S09	W04	09	22.3		B	BXO	20	9	6	3
3913	23348	MWIL	09	22	1530	S09	W04	09	22.3	3	(B)					
3913		PALE	09	22	1818	S09	W05	09	22.4		B	BXO	20	8	7	3
3913		MANI	09	23	0035	S09	W09	09	22.3			BXO	20	7	7	2
3913		LEAR	09	23	0120	S09	W10	09	22.3		B	BXO	10	6	5	3
3913		BOUL	09	23	1440	S08	W16	09	22.4		B	CRO	20	7	6	3
3913	23348	MWIL	09	23	1525	S09	W17	09	22.4	3	(B)					
3913		HOLL	09	23	1540	S09	W17	09	22.4		B	CRO	20	3	4	3
3913		PALE	09	23	1953	S09	W18	09	22.5		B	CSO	40	7	6	2
3913		LEAR	09	24	0055	S09	W22	09	22.4		B	CRO	20	5	5	3
3913		RAMY	09	24	1350	S10	W29	09	22.4		B	BXO	50	7	5	3
3913		BOUL	09	24	1445	S07	W30	09	22.4		B	BXO	20	10	5	3
3913		HOLL	09	24	1520	S09	W30	09	22.4		B	DSO	50	9	8	3
3913		MANI	09	24	2312	S09	W35	09	22.3			CSO	90	7	8	2
3913		LEAR	09	25	0228	S08	W37	09	22.3		B	BXO	40	8	6	3
3913		RAMY	09	25	1319	S10	W43	09	22.3		B	CSO	60	8	7	1
3913		PALE	09	25	1950	S11	W45	09	22.4		B	CRO	20	3	3	3
3913		MANI	09	25	2353	S09	W39	09	23.1			CRO	30	5	8	2
3913		LEAR	09	26	0343	S09	W52	09	22.2		B	BXO	10	2	6	3
3913		RAMY	09	26	1335	S11	W55	09	22.4		B	BXO	20	4	5	2
		HOLL	09	22	1440	N28	W04	09	22.3		B	BXO		2	4	3
3915		RAMY	09	21	1215	N18	E17	09	22.8		B	BXO	10	3	3	4
3915		RAMY	09	24	1350	N16	W24	09	22.8		A	AXX	10	1	1	3
3915		BOUL	09	24	1445	N17	W24	09	22.8		B	BXO	10	2	2	3
3915		HOLL	09	24	1520	N16	W24	09	22.8		A	AXX		1		3
3920		PALE	09	23	1920	S08	W18	09	22.5		B	BXO	10	3	5	2
3920		RAMY	09	24	1350	S08	W15	09	23.5		B	BXO	20	4	4	3
3920		BOUL	09	24	1445	S04	W17	09	23.3		B	BXO	20	6	4	3
3920		HOLL	09	24	1520	S07	W15	09	23.5		B	BXO	20	8	5	3
3920		MANI	09	24	2312	S08	W21	09	23.4			BXO	10	4	5	2
3920		LEAR	09	25	0228	S06	W24	09	23.3		A	AXX		1		3
3920		RAMY	09	25	1319	S07	W28	09	23.5		B	CSO	50	5	4	1
3920		PALE	09	25	1950	S06	W32	09	23.4		B	CRO	30	2	4	3
3920		MANI	09	25	2353	S08	W34	09	23.4			CRO	30	3	3	2
3920		LEAR	09	26	0343	S06	W36	09	23.5		B	CRO	20	3	4	3
3920		RAMY	09	26	1335	S07	W41	09	23.5		A	HSX	30	1	1	2
3920		PALE	09	26	1808	S05	W44	09	23.5		A	AXX		1		3
3920		LEAR	09	27	0013	S06	W47	09	23.5		A	AXX		1		3
		HOLL	09	23	1540	N09	E04	09	24.0		A	AXX		1		3
3918		LEAR	09	23	0120	N17	E21	09	24.7		A	AXX		1		3

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NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Time Mo	Day	(UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10^{-6} Hem!)	Spot Count	Long. Extent (Deg)	Qual
3918		BOUL	09	23	1440	N18	E12	09	24.5		B	BXO	10	2	3	3
3918	23351	MWIL	09	23	1525	N17	E13	09	24.6	2	(B)					
3918		HOLL	09	23	1540	N17	E14	09	24.7		B	BXO		2	3	3
3918		PALE	09	23	1953	N17	E12	09	24.7		B	BXO	10	2	3	2
3918		LEAR	09	24	0055	N17	E08	09	24.6		B	BXO		2	3	3
3918		BOUL	09	24	1445	N17	W03	09	24.4		B	BXO	10	2	3	3
3925		LEAR	09	25	0228	S14	E06	09	25.6		A	AXX		1		3
3925		PALE	09	25	1950	S10	W07	09	25.3		B	BXO	20	3	2	3
3925		MANI	09	25	2353	S10	W09	09	25.3			BXO	20	5	3	2
3925		LEAR	09	26	0343	S11	W11	09	25.3		B	BXO	20	4	3	3
3925		RAMY	09	26	1335	S11	W18	09	25.2		A	HRX	20	1	1	2
3925		PALE	09	26	1808	S10	W20	09	25.3		A	AXX		1		3
3925		LEAR	09	27	0013	S10	W23	09	25.3		A	AXX		1		3
3916		BOUL	09	22	1415	S17	E60	09	27.2		B	BXO	30	2	2	8
3916		HOLL	09	22	1440	S18	E62	09	27.3		B	CSO	20	4	4	3
3916	23349	MWIL	09	22	1530	S18	E63	09	27.4	3	(AP)					
3916		PALE	09	22	1818	S19	E62	09	27.5		B	BXO	20	3	7	3
3916		MANI	09	23	0035	S19	E59	09	27.5			BXO	30	3	6	2
3916		LEAR	09	23	0120	S19	E57	09	27.4		B	BXO		3	6	3
3916		BOUL	09	23	1440	S19	E50	09	27.4		B	BXO	10	2	4	3
3916	23349	MWIL	09	23	1525	S18	E50	09	27.5	3	(B)					
3916		HOLL	09	23	1540	S19	E51	09	27.5		B	BXO		2	5	3
3916		PALE	09	23	1953	S18	E43	09	27.1		B	BXO	20	4	6	2
3916		LEAR	09	24	0055	S18	E40	09	27.1		B	BXO	10	3	4	3
3916		RAMY	09	24	1350	S19	E35	09	27.2		B	BXO	30	2	6	3
3916		BOUL	09	24	1445	S16	E31	09	27.0		B	BXO	20	3	4	3
3916		HOLL	09	24	1520	S18	E33	09	27.2		B	BXO	20	4	6	3
3916		MANI	09	24	2312	S19	E27	09	27.0			BXO	20	5	6	2
3916		LEAR	09	25	0228	S18	E27	09	27.2		B	BXO	20	5	8	3
3916		RAMY	09	25	1319	S18	E22	09	27.2		B	BXO	30	3	3	1
3916		PALE	09	25	1950	S18	E19	09	27.3		B	BXO	30	3	3	3
3916		MANI	09	25	2353	S19	E14	09	27.1			BXO	10	2	3	2
3916		LEAR	09	26	0343	S18	E15	09	27.3		B	BXO	10	3	3	3
3916		RAMY	09	26	1335	S17	E11	09	27.4		A	AXX	20	1	1	2
3916		PALE	09	26	1808	S17	E07	09	27.3		B	BXO	10	2	4	3
3916		RAMY	09	27	1345	S19	W03	09	27.3		A	HSX	20	1	1	3
3916		BOUL	09	27	1440	S16	W05	09	27.2		A	AXX		1		3
3916		HOLL	09	27	1506	S18	W04	09	27.3		A	AXX	40	1	1	2
3916	23349	MWIL	09	27	1730	S19	W05	09	27.3	3	(AF)					
3916		PALE	09	27	1800	S17	W06	09	27.3		B	BXO	20	4	3	3
3916		LEAR	09	28	0024	S17	W11	09	27.2		B	CRO	20	8	4	3
3916		LEAR	09	29	0108	S17	W25	09	27.1		B	DAO	70	11	6	3
3916		RAMY	09	29	1210	S19	W31	09	27.1		B	CSO	90	12	7	4
3916		BOUL	09	29	1538	S18	W35	09	27.0		B	CSO	60	4	4	3
3916		HOLL	09	29	1717	S18	W34	09	27.1		B	CSO	70	8	5	2
3916		PALE	09	29	1842	S17	W35	09	27.1		B	CSO	50	5	4	3
3916		LEAR	09	30	0421	S16	W40	09	27.1		B	CSO	50	7	4	3
3916		RAMY	09	30	1325	S20	W47	09	27.0		B	CAO	70	3	4	3
3916	23349	MWIL	09	30	1515	S17	W46	09	27.1	4	(B)					
3916		PALE	09	30	1920	S18	W49	09	27.1		B	CRO	40	3	4	3
3916		LEAR	10	01	0227	S17	W53	09	27.1		B	BXO	10	3	4	3
3916		HOLL	10	01	1710	S17	W62	09	27.0		A	AXX		0		4
3916		LEAR	10	02	0020	S17	W66	09	27.0		A	AXX		1		3
3928		LEAR	09	29	0108	S09	W09	09	28.4		B	CRO	10	6	4	3
3928		RAMY	09	29	1210	S09	W16	09	28.3		B	DAO	40	11	4	4
3928		BOUL	09	29	1538	S08	W18	09	28.3		B	BXO	10	8	3	3
3928		HOLL	09	29	1717	S09	W18	09	28.4		B	BXO	20	7	4	2
3928		PALE	09	29	1842	S09	W19	09	28.4		B	CSO	30	9	4	3
3928		LEAR	09	30	0421	S08	W25	09	28.3		B	DRO	40	7	4	3
3928		RAMY	09	30	1325	S11	W30	09	28.3		B	CSO	50	7	4	3
3928	23358	MWIL	09	30	1515	S09	W31	09	28.3	4	(B)					
3928		PALE	09	30	1920	S10	W34	09	28.2		B	CSO	30	3	6	3
3928		LEAR	10	01	0227	S08	W37	09	28.3		B	CRO	40	6	7	3
3928		RAMY	10	01	1250	S08	W45	09	28.2		B	CSO	60	4	2	2
3928	23358	MWIL	10	01	1600	S10	W46	09	28.2	3	(BP)					
3928		HOLL	10	01	1710	S10	W48	09	28.1		B	BXO	10	3	3	4
3928		PALE	10	01	2000	S09	W49	09	28.2		B	BXO	20	2	3	2
3928		LEAR	10	02	0020	S08	W52	09	28.1		B	BXO		2	3	3

REGIONS OF SUNSPOT ACTIVITY
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

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NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Time Mo	Day	(UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10^{-6} Hemi)	Spot Count	Long. Extent (Deg)	Qual
		BOUL	09	27	1440	S04	E16	09	28.8		A	AXX		1		3
3919		LEAR	09	23	0120	S10	E75	09	28.7		B	BXO		3	3	3
3919		BOUL	09	23	1440	S11	E66	09	28.6		B	CRO	20	2	3	3
3919	23352	MWIL	09	23	1525	S10	E68	09	28.8	2	AP					
3919		HOLL	09	23	1540	S09	E70	09	28.9		B	BXO	10	3	5	3
3919		PALE	09	23	1953	S08	E67	09	28.9		B	BRO	20	2	6	2
3919		LEAR	09	24	0055	S07	E64	09	28.8		B	CRO	10	2	7	3
3919		RAMY	09	24	1350	S09	E60	09	29.1		B	CSO	90	4	10	3
3919		BOUL	09	24	1445	S08	E50	09	28.4		B	BXO	20	3	2	3
3919		HOLL	09	24	1520	S09	E52	09	28.5		A	AXX	10	1	1	3
3919		MANI	09	24	2312	S09	E50	09	28.7			BXO	30	3		2
3919		LEAR	09	25	0228	S08	E49	09	28.8		B	BXO	20	3	8	3
3919		RAMY	09	25	1319	S10	E45	09	28.9		B	BXO	60	5	10	1
3919		PALE	09	25	1950	S10	E40	09	28.8		B	CSO	50	6	11	3
3919		MANI	09	25	2353	S09	E36	09	28.7			DAO	80	11	10	2
3919		LEAR	09	26	0343	S11	E36	09	28.9		B	CSI	90	15	10	3
3919		RAMY	09	26	1335	S10	E30	09	28.8		B	ERO	150	17	12	2
3919		PALE	09	26	1808	S11	E28	09	28.9		B	CSO	80	19	11	3
3919		LEAR	09	27	0013	S12	E25	09	28.9		B	BXI	30	29	9	3
3919		RAMY	09	27	1345	S11	E18	09	28.9		B	ESO	100	18	12	3
3919		BOUL	09	27	1440	S09	E15	09	28.7		BG	BXI	20	17	12	3
3919		HOLL	09	27	1506	S11	E16	09	28.8		B	ERO	80	14	13	2
3919	23352	MWIL	09	27	1730	S10	W13	09	26.8	3	B					
3919		PALE	09	27	1800	S10	E15	09	28.9		B	CSO	80	24	14	3
3919		LEAR	09	28	0024	S11	E10	09	28.8		B	CRO	40	18	14	3
3919		LEAR	09	29	0108	S10	W01	09	29.0		B	DAI	90	21	9	3
3919		RAMY	09	29	1210	S11	W06	09	29.1		B	DKO	170	39	8	4
3919		BOUL	09	29	1538	S10	W10	09	28.9		B	DSO	120	17	7	3
3919		HOLL	09	29	1717	S11	W09	09	29.0		B	DAO	220	33	8	2
3919		PALE	09	29	1842	S10	W10	09	29.0		B	DAI	170	34	9	3
3919		LEAR	09	30	0421	S11	W15	09	29.1		B	DAI	250	18	7	3
3919		RAMY	09	30	1325	S13	W20	09	29.0		B	DKO	160	14	9	3
3919	23352	MWIL	09	30	1515	S11	W21	09	29.1	5	(BY)					
3919		PALE	09	30	1920	S11	W24	09	29.0		B	DAO	240	15	10	3
3919		LEAR	10	01	0227	S12	W27	09	29.1		B	DKO	430	29	10	3
3919		RAMY	10	01	1250	S11	W35	09	28.9		B	EKO	490	32	11	2
3919	23352	MWIL	10	01	1600	S12	W35	09	29.0	5	(B)					
3919		HOLL	10	01	1710	S12	W37	09	28.9		B	EKO	650	41	13	4
3919		PALE	10	01	2000	S12	W38	09	29.0		B	EKO	500	10	14	2
3919		LEAR	10	02	0020	S12	W40	09	29.0		B	EKI	600	50	11	3
3919	23352	MWIL	10	02	1500	S12	W48	09	29.0	5	(D)					
3919		RAMY	10	02	1503	S12	W48	09	29.0		B	EKO	1540	38	11	2
3919		HOLL	10	02	1520	S12	W48	09	29.0		BG	EKO	580	21	14	2
3919		PALE	10	02	1808	S12	W49	09	29.1		BG	EKO	470	15	13	3
3919		MANI	10	02	2303	S12	W53	09	29.0			EAI	810	18	14	3
3919		LEAR	10	03	0040	S12	W54	09	29.0		B	EKI	560	26	13	3
3919		RAMY	10	03	1330	S13	W62	09	28.9		BG	FHI	850	17	16	3
3919		BOUL	10	03	1435	S11	W60	09	29.1		BG	EKO	1000	23	15	3
3919		HOLL	10	03	1516	S12	W62	09	29.0		BG	EKO	730	20	15	3
3919	23352	MWIL	10	03	1600	S12	W61	09	29.1	5	(D)					
3919		PALE	10	03	1838	S12	W64	09	29.0		BG	EKO	740	15	14	3
3919		MANI	10	03	2325	S13	W67	09	28.9			EHI	810	9	14	3
3919		LEAR	10	04	0015	S12	W68	09	28.9		BD	FKI	870	18	16	3
3919		BOUL	10	04	1415	S11	W70	09	29.3		B	FAI	600	11	17	3
3919	23352	MWIL	10	04	1515	S12	W75	09	29.0	3	(B)					
3919		HOLL	10	04	1752	S12	W76	09	29.0		B	FHO	800	3	21	3
3919		PALE	10	04	1824	S12	W79	09	28.8		B	FKI	640	15	18	3
3919		MANI	10	05	0001	S12	W79	09	29.0		BG	EHO	840	5	15	3
3919		LEAR	10	05	0105	S12	W79	09	29.1		B	DKO	390	10	9	3
3919		RAMY	10	05	1430	S14	W83	09	29.3		B	CAO	130	7	3	4
3919		BOUL	10	05	1450	S11	W88	09	29.0		B	DSI	430	3	8	2
3919		HOLL	10	05	1520	S13	W81	09	29.5		B	DAO	200	3	4	4
3919	23352	MWIL	10	05	1530	S12	W82	09	29.5	3	AF					
		BOUL	09	24	1445	S06	E60	09	29.1		A	AXX	10	1	1	3
3917		BOUL	09	22	1415	N14	E82	09	28.8		A	HSX	140	1	2	8
3917		HOLL	09	22	1440	N14	E80	09	28.7		A	HSX	180	1	3	3
3917	23350	MWIL	09	22	1530	N16	E85	09	29.1	2	AP					
3917		PALE	09	22	1818	N14	E81	09	28.9		A	HHX	120	1	3	3

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3917		MANI	09	23	0035	N14	E78	09	28.9			HSX	370	1	2	2
3917		LEAR	09	23	0120	N15	E76	09	28.8		A	HHX	140	1	3	3
3917		BOUL	09	23	1440	N13	E68	09	28.7		A	HSX	200	1	2	3
3917	23350	MWIL	09	23	1525	N16	E69	09	28.9	5	(AP)					
3917		HOLL	09	23	1540	N14	E68	09	28.8		A	HSX	200	2	2	3
3917		PALE	09	23	1953	N14	E65	09	28.7		B	CSO	160	4	3	2
3917		LEAR	09	24	0055	N15	E63	09	28.8		B	CHO	160	5	5	3
3917		RAMY	09	24	1350	N15	E58	09	29.0		B	CKO	140	5	4	3
3917		BOUL	09	24	1445	N16	E55	09	28.8		B	CSO	180	8	3	3
3917		HOLL	09	24	1520	N14	E55	09	28.8		B	CAO	150	8	3	3
3917		MANI	09	24	2312	N14	E50	09	28.7			CSO	220	8	3	2
3917		LEAR	09	25	0228	N15	E47	09	28.7		B	CAO	110	9	4	3
3917		RAMY	09	25	1319	N16	E43	09	28.8		B	CKO	190	7	3	1
3917		PALE	09	25	1950	N14	E41	09	28.9		B	CSO	150	5	10	3
3917		MANI	09	25	2353	N14	E38	09	28.9			DAO	240	14	10	2
3917		LEAR	09	26	0343	N15	E37	09	29.0		B	CSO	160	13	10	3
3917		RAMY	09	26	1335	N16	E34	09	29.1		B	EKO	300	25	12	2
3917		PALE	09	26	1808	N15	E30	09	29.0		BG	EAI	210	29	12	3
3917		LEAR	09	27	0013	N15	E26	09	29.0		BG	EAI	240	22	14	3
3917		RAMY	09	27	1345	N15	E20	09	29.1		BG	EKO	300	36	14	3
3917		BOUL	09	27	1440	N18	E20	09	29.1		BG	ESI	160	34	14	3
3917		HOLL	09	27	1506	N16	E19	09	29.1		BG	EAI	330	28	15	2
3917	23350	MWIL	09	27	1730	N15	E19	09	29.2	4	(BP)					
3917		PALE	09	27	1800	N17	E17	09	29.0		BG	EKI	250	34	14	3
3917		LEAR	09	28	0024	N16	E14	09	29.1		BG	EKI	230	47	14	3
3917		LEAR	09	29	0108	N17	E01	09	29.1		BG	EAI	440	41	13	3
3917		RAMY	09	29	1210	N16	W05	09	29.1		BG	FKI	320	43	16	4
3917		BOUL	09	29	1538	N17	W08	09	29.0		BG	EAO	320	30	12	3
3917		HOLL	09	29	1717	N17	W08	09	29.1		BG	EAO	360	27	13	2
3917		PALE	09	29	1842	N16	W07	09	29.2		BG	EAO	290	25	13	3
3917		LEAR	09	30	0421	N17	W14	09	29.1		BG	ESI	330	39	13	3
3917		RAMY	09	30	1325	N13	W23	09	28.8		BG	EKO	190	13	11	3
3917	23350	MWIL	09	30	1515	N17	W18	09	29.3	5	(BY)					
3917		PALE	09	30	1920	N16	W21	09	29.2		BG	EAO	210	15	12	3
3917		LEAR	10	01	0227	N16	W24	09	29.3		BG	EAO	230	23	13	3
3917		RAMY	10	01	1250	N15	W36	09	28.8		BG	EAO	140	14	4	2
3917	23350	MWIL	10	01	1600	N17	W31	09	29.3	4	(B)					
3917		HOLL	10	01	1710	N16	W34	09	29.1		B	EAO	150	13	13	4
3917		PALE	10	01	2000	N18	W35	09	29.2		B	EAO	140	9	12	2
3917		LEAR	10	02	0020	N17	W37	09	29.2		BG	EAO	100	18	12	3
3917	23350	MWIL	10	02	1500	N18	W44	09	29.3	5	(D)					
3917		RAMY	10	02	1503	N15	W45	09	29.2		BG	EAI	250	12	11	2
3917		HOLL	10	02	1520	N17	W46	09	29.1		B	CSO	150	8	12	2
3917		PALE	10	02	1808	N18	W47	09	29.2		B	CSO	160	10	12	3
3917		MANI	10	02	2303	N15	W50	09	29.2			ESO	210	7	12	3
3917		LEAR	10	03	0040	N17	W50	09	29.2		B	CAO	130	8	11	3
3917		RAMY	10	03	1330	N19	W52	09	29.6		BG	CSO	130	5	4	3
3917		BOUL	10	03	1435	N17	W60	09	29.0		B	CSO	100	9	10	3
3917		HOLL	10	03	1516	N17	W58	09	29.2		B	CAO	140	8	12	3
3917	23350	MWIL	10	03	1600	N19	W56	09	29.4	4	(D)					
3917		PALE	10	03	1838	N20	W57	09	29.4		B	CKO	140	8	5	3
3917		MANI	10	03	2325	N17	W60	09	29.4			CAO	100	5	10	3
3917		LEAR	10	04	0015	N16	W63	09	29.2		B	DSO	70	10	10	3
3917		BOUL	10	04	1415	N18	W64	09	29.7		A	HSX	20	1	1	3
3917	23350	MWIL	10	04	1515	N20	W67	09	29.5	4	(D)					
3917		HOLL	10	04	1752	N18	W68	09	29.6		A	HHX	100	2	3	3
3917		PALE	10	04	1824	N19	W69	09	29.5		B	CSO	70	3	3	3
3917		MANI	10	05	0001	N18	W71	09	29.6		A	HSX	90	2	2	3
3917		LEAR	10	05	0105	N18	W73	09	29.5		A	HAX	60	3	2	3
3917		RAMY	10	05	1430	N18	W79	09	29.6		B	CAO	60	2	3	4
3917		BOUL	10	05	1450	N20	W81	09	29.4		A	HSX	80	1	1	2
3917		HOLL	10	05	1520	N18	W79	09	29.6		A	HRX	20	1	1	4
3917	23350	MWIL	10	05	1530	N19	W79	09	29.6	2	AF					
3917		PALE	10	05	1840	N18	W82	09	29.5		B	BXO	20	3	3	3
		BOUL	09	24	1445	S07	E76	09	30.3		B	BXO	10	2	8	3
3922		PALE	09	23	1920	N13	E72	09	29.2		B	CAO	50	4	8	2
3922		LEAR	09	24	0055	N15	E81	09	30.2		B	BXO		2	3	3
3922		RAMY	09	24	1350	N16	E74	09	30.2		B	BXO	60	3	9	3
3922		BOUL	09	24	1445	N14	E80	09	30.7		B	CSO	70	4	12	3

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3922		HOLL	09	24	1520	N14	E75	09	30.3		B	DAO	140	7	10	3
3922		MANI	09	24	2312	N13	E70	09	30.3			DAO	460	9	8	2
3922		LEAR	09	25	0228	N14	E67	09	30.2		B	DAI	190	14	9	3
3922		RAMY	09	25	1319	N15	E62	09	30.3		B	EKO	750	13	12	1
3922		PALE	09	25	1950	N13	E60	09	30.4		B	DKO	320	8	10	3
3922		MANI	09	25	2353	N13	E55	09	30.1			DSO	490	10	10	2
3922		LEAR	09	26	0343	N14	E54	09	30.2		B	DHI	330	12	10	3
3922		RAMY	09	26	1335	N15	E48	09	30.2		B	DKO	360	16	10	2
3922		PALE	09	26	1808	N15	E46	09	30.2		B	EKI	370	19	11	3
3922		LEAR	09	27	0013	N14	E43	09	30.3		B	DKI	440	23	10	3
3922		RAMY	09	27	1345	N14	E35	09	30.2		BG	DKO	440	16	10	3
3922		BOUL	09	27	1440	N17	E33	09	30.1		B	DHI	430	16	10	3
3922		HOLL	09	27	1506	N15	E34	09	30.2		B	DHI	480	15	10	2
3922	23353	MWIL	09	27	1730	N14	E35	09	30.4	5	(B)					
3922		PALE	09	27	1800	N15	E32	09	30.2		BG	DKI	380	17	10	3
3922		LEAR	09	28	0024	N14	E30	09	30.3		B	DKI	510	27	9	3
3922		LEAR	09	29	0108	N15	E16	09	30.3		B	EKI	730	30	11	3
3922		RAMY	09	29	1210	N15	E11	09	30.3		B	EKI	820	34	11	4
3922		BOUL	09	29	1538	N13	E06	09	30.1		B	DKI	620	22	10	3
3922		HOLL	09	29	1717	N14	E06	09	30.2		B	DKO	880	24	10	2
3922		PALE	09	29	1842	N14	E06	09	30.2		B	DKI	720	32	10	3
3922		LEAR	09	30	0421	N14	E01	09	30.3		BD	EKI	1120	35	11	3
3922		RAMY	09	30	1325	N14	W06	09	30.1		B	EKI	700	23	11	3
3922	23353	MWIL	09	30	1515	N14	W05	09	30.3	6	(D)					
3922		PALE	09	30	1920	N14	W07	09	30.3		B	DKI	760	24	10	3
3922		LEAR	10	01	0227	N15	W12	09	30.2		BD	DKI	1010	36	10	3
3922		RAMY	10	01	1250	N15	W18	09	30.2		B	EKI	720	53	12	2
3922	23353	MWIL	10	01	1600	N14	W19	09	30.2	5	(D)					
3922		HOLL	10	01	1710	N14	W20	09	30.2		BD	DKI	1060	34	10	4
3922		PALE	10	01	2000	N16	W21	09	30.2		BD	EKI	700	23	11	2
3922		LEAR	10	02	0020	N15	W24	09	30.2		BD	EKC	880	48	11	3
3922	23353	MWIL	10	02	1500	N15	W32	09	30.2	5	(D)					
3922		RAMY	10	02	1503	N14	W32	09	30.2		B	EKI	930	56	12	2
3922		HOLL	10	02	1520	N15	W31	09	30.3		BGD	EKI	840	26	12	2
3922		PALE	10	02	1808	N15	W33	09	30.3		BGD	EKI	880	29	12	3
3922		MANI	10	02	2303	N13	W33	09	30.5			FKI	1080	26	19	3
3922		LEAR	10	03	0040	N15	W37	09	30.2		BD	EKC	930	39	11	3
3922		RAMY	10	03	1330	N14	W44	09	30.2		BGD	EKO	660	26	12	3
3922		BOUL	10	03	1435	N15	W45	09	30.2		BD	EKI	980	37	13	3
3922		HOLL	10	03	1516	N13	W45	09	30.2		BD	EKI	840	32	14	3
3922	23353	MWIL	10	03	1600	N14	W44	09	30.3	5	(D)					
3922		PALE	10	03	1838	N14	W46	09	30.3		BD	EKI	780	23	14	3
3922		MANI	10	03	2325	N13	W48	09	30.4			EKI	860	23	13	3
3922		LEAR	10	04	0015	N14	W50	09	30.2		BGD	EKI	870	38	11	3
3922		BOUL	10	04	1415	N12	W57	09	30.3		B	EHI	950	20	13	3
3922	23353	MWIL	10	04	1515	N14	W59	09	30.2	5	(D)					
3922		HOLL	10	04	1752	N13	W59	09	30.3		BD	EKI	1130	15	12	3
3922		PALE	10	04	1824	N15	W60	09	30.2		B	EKI	1030	29	12	3
3922		MANI	10	05	0001	N13	W61	09	30.4		BD	EKI	950	17	12	3
3922		LEAR	10	05	0105	N14	W63	09	30.3		BD	EKI	940	17	13	3
3922		RAMY	10	05	1430	N14	W70	09	30.3		BD	EKI	800	26	13	4
3922		BOUL	10	05	1450	N14	W73	09	30.1		BD	EKI	860	14	11	2
3922		HOLL	10	05	1520	N13	W70	09	30.4		BD	EKI	940	19	13	4
3922	23353	MWIL	10	05	1530	N13	W70	09	30.4	5	(B)					
3922		PALE	10	05	1840	N14	W73	09	30.3		BD	EKI	920	18	13	3
3922		LEAR	10	06	0110	N14	W77	09	30.2		BD	EKO	690	8	13	3
3922		HOLL	10	06	1445	N14	W81	09	30.5		A	HKX	260	6	4	2
3922	23353	MWIL	10	06	1515	N13	W88	09	30.0	4	(B)					
3922		PALE	10	06	1905	N14	W84	09	30.4		B	CKO	380	5	6	2
3922		MANI	10	07	0019	N14	W88	09	30.4			HAX	280	1	2	2
3922		LEAR	10	07	0038	N14	W86	09	30.5		BD	HKX	470	1	3	3
3927		LEAR	09	29	0108	N27	E19	09	30.5		B	BXO	10	3	3	3
3927		RAMY	09	29	1210	N28	E11	09	30.4		A	AXX	10	1	1	4
3927		HOLL	10	01	1710	N29	W15	09	30.5		A	AXX		0		4
	23360	MWIL	09	30	1515	N02	W02	09	30.5	3	(AF)					
3929	23363	MWIL	10	01	1600	N23	W15	09	30.5	3	(AP)					
3929		HOLL	10	01	1710	N24	W16	09	30.5		A	AXX		0		4
3929		LEAR	10	02	0020	N23	W21	09	30.4		B	BXO		2	3	3

REGIONS OF SUNSPOT ACTIVITY
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

SEPTEMBER 1982

NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Time Mo	Day	(UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10^{-6} Hem!)	Spot Count	Long. Extent (Deg)	Qual
3929	23363	MWIL	10	02	1500	N22	W30	09	30.3	3	(AF)					
3929		LEAR	10	03	0040	N23	W30	09	30.7		A	AXX		1		3
3921		PALE	09	23	1920	S22	E76	09	29.7		A	HHX	100	2	3	2
3921		RAMY	09	24	1350	S20	E80	09	30.7		B	CKO	130	2	9	3
3921		BOUL	09	24	1445	S18	E76	09	30.4		A	HSX	130	1	1	3
3921		HOLL	09	24	1520	S21	E80	09	30.8		A	HHX	120	2	4	3
3921		MANI	09	24	2312	S22	E74	09	30.7			HHX	320	2	3	2
3921		LEAR	09	25	0228	S21	E73	09	30.7		A	HHX	140	2	3	3
3921		RAMY	09	25	1319	S20	E65	09	30.5		A	HKX	250	3	3	1
3921		PALE	09	25	1950	S20	E63	09	30.6		A	HKX	150	2	3	3
3921		MANI	09	25	2353	S22	E60	09	30.6			HHX	230	2	3	2
3921		LEAR	09	26	0343	S21	E56	09	30.5		A	HHX	150	2	3	3
3921		RAMY	09	26	1335	S20	E51	09	30.5		B	CHO	140	3	3	2
3921		PALE	09	26	1808	S21	E49	09	30.5		A	HSX	80	2	2	3
3921		LEAR	09	27	0013	S20	E45	09	30.5		B	DXO	130	2	4	3
3921		RAMY	09	27	1345	S21	E39	09	30.6		B	DSO	130	2	2	3
3921		BOUL	09	27	1440	S20	E36	09	30.4		B	DSO	130	2	3	3
3921		HOLL	09	27	1506	S20	E37	09	30.5		B	DAO	110	2	3	2
3921	23354	MWIL	09	27	1730	S20	E37	09	30.6	5	(AP)					
3921		PALE	09	27	1800	S21	E36	09	30.5		A	HSX	100	2	2	3
3921		LEAR	09	28	0024	S20	E35	09	30.7		B	DSI	120	5	7	3
3921		LEAR	09	29	0108	S19	E25	10	1.0		B	FSO	160	13	16	3
3921		RAMY	09	29	1210	S18	E21	10	1.1		B	FHO	240	33	17	4
3921		BOUL	09	29	1538	S18	E17	09	30.9		B	FSO	120	24	16	3
3921		HOLL	09	29	1717	S18	E15	09	30.9		B	FSO	210	21	18	2
3921		PALE	09	29	1842	S19	E15	09	30.9		B	FSO	190	31	17	3
3921		LEAR	09	30	0421	S18	E10	09	30.9		B	FSO	370	44	19	3
3921	23354	MWIL	09	30	1515	S19	E01	09	30.7	4	(D)					
3921	23359	MWIL	09	30	1515	S24	W04	09	30.3	2	(AP)					
3921		PALE	09	30	1920	S20	E01	09	30.9		B	FSO	170	21	16	3
3921		LEAR	10	01	0227	S19	W01	10	1.0		B	FSO	310	38	19	3
3921		RAMY	10	01	1250	S19	W11	09	30.7		B	DAI	140	32	7	2
3921	23354	MWIL	10	01	1600	S19	W13	09	30.7	4	(BP)					
3921		HOLL	10	01	1710	S20	W15	09	30.6		BGD	DKI	260	27	10	4
3921		PALE	10	01	2000	S20	W16	09	30.6		BGD	DKI	220	12	8	2
3921		LEAR	10	02	0020	S20	W13	10	1.0		B	FKO	200	47	18	3
3921	23354	MWIL	10	02	1500	S18	W23	09	30.9	4	(D)					
3921		RAMY	10	02	1503	S18	W22	10	1.0		B	DAO	220	25	13	2
3921		HOLL	10	02	1520	S18	W23	09	30.9		BD	EKI	210	23	13	2
3921		PALE	10	02	1808	S18	W24	10	1.0		B	EKO	230	31	13	3
3921		MANI	10	02	2303	S20	W24	10	1.1			FAO	270	19	16	3
3921		LEAR	10	03	0040	S18	W27	10	1.0		B	CAO	150	34	13	3
3921		RAMY	10	03	1330	S18	W38	09	30.7		B	CSO	80	15	8	3
3921		BOUL	10	03	1435	S16	W36	09	30.9		B	CAI	30	24	10	3
3921		HOLL	10	03	1516	S18	W37	09	30.8		BG	CSI	140	23	11	3
3921	23354	MWIL	10	03	1600	S18	W34	10	1.1	3	(BY)					
3921		PALE	10	03	1838	S17	W36	10	1.0		B	CSO	130	22	10	3
3921		MANI	10	03	2325	S19	W39	10	1.0			DSO	140	10	10	3
3921		LEAR	10	04	0015	S17	W41	09	30.9		B	ESO	40	22	13	3
3921		BOUL	10	04	1415	S17	W49	09	30.9		B	CSO	60	6	6	3
3921	23354	MWIL	10	04	1515	S18	W52	09	30.7	4	(D)					
3921		HOLL	10	04	1752	S18	W51	09	30.9		B	CSO	80	10	11	3
3921		PALE	10	04	1824	S19	W52	09	30.8		B	DAO	90	7	6	3
3921		MANI	10	05	0001	S19	W54	09	30.9		B	CRO	80	8	7	3
3921		LEAR	10	05	0105	S17	W54	09	30.9		B	CAO	30	6	10	3
3921		RAMY	10	05	1430	S18	W64	09	30.7		B	CAO	50	3	2	4
3921		BOUL	10	05	1450	S15	W64	09	30.8		A	HSX	70	1	1	2
3921		HOLL	10	05	1520	S17	W63	09	30.8		B	BXO	10	3	3	4
3921	23354	MWIL	10	05	1530	S17	W62	09	30.9	3	(BP)					
3921		PALE	10	05	1840	S17	W65	09	30.8		B	BXO	10	2	4	3
3921		LEAR	10	06	0110	S17	W68	09	30.9		B	BXO	10	3	5	3
3921	23354	MWIL	10	06	1515	S17	W77	09	30.8	3	(AF)					
3921		LEAR	10	07	0038	S16	W85	09	30.6		A	AXX		1		3

SUDDEN IONOSPHERIC DISTURBANCES

September 1982

Day	Start (UT)	Max (UT)	End (UT)	Imp	Wide-spread Index	Number of Station Reports by Type SWF	SEA	SPA	LF-SPA	SES	Known Flare	NOAA/USAF Region
01	0107E	0130	0238	1-	3			1		4	NF	
01	0558	0628	0740U	1	3		2				NF	
01	0732	0758	1145	3	5	4	3	1	1	2	0731	3886
01	0850	0903	0930	1	3		1		1	1	NF	
01	1033	1038	1120	1	3		2				*	
01	1214	1218	1242	1	3		2				*	
01	1444	1500	1537	1-	3		2	1			NF	
01	1621	1626	1750	1	3			1		9	*	
01	2226	2234	2310	1-	3			1		1	*	
01	2334	2345	0045	1-	3	1		1		4	*	
02	1300	1310	1535	1-	3	1	3	1	1	3	1303	3885
02	1832	1857	2030	1-	3			1		10	1826	3886
02	1842	1901	1945	2	3					2	1839	3883
03	0041	0052	0114	1-	1			1			0026	3882
03	0122	0127	0154	1-	3			1		1	0120	3886
03	0200	0210	0248	1-	3			1		1	0155	3886
03	0609	0618	0746	1-	3			1		1	0609	3886
03	0848	0855	0930U	1	3		2				*	
03	1045	1115	1124	1	3		2				NF	
03	1505	1513	1607	1-	3			1		6	1505	3886
03	1600	1602	1630	1+	1					1	1608	3883
04	0028	0058	0147D	3	3	2		1		6	0026	3886
04	0730	0747	0751	1	3		1			1	0723	3878
04	1641	1643	1706	1-	3					5	1638	3886
05	0312	0330	0420	1-	3			1		1	0310	3887
05	0958	1024	1125	1+	3	1		1	1	2	1010	No Data
05	2000	2008	2025	1-	1					1	1959E	3891
06	0055	0059	0100	1-	3					2	0106E	No Data
06	0150	0408	0201	2+	3	1		1		1	0150	No Data
06	1238	1248	1330	2	3	1	3		1		*	
06	1800	1812	1848	1	3					2	NF	
07	1815	1826	1900	1	3	1				3	1818	3885
08	0641	0701	0839	1-	1			1			0640	3886
08	1030	1058	1132	1	3		2				*	
08	1429	1433U	1620	1-	3		1			1	NF	
09	0012	0044	0242	1	3	1		1		4	0014	3895
09	0604	0622	0656	1-	3			1		1	0600	3885
09	0712	0720	0744D	1	3			1		1	0712	3885
09	1405	1432	1442	1-	3		1	1		1	1404	3901
09	1458	1520	1610	1+	3					3	NF	
10	0222	0228	0347	1-	3			1		4	0223	3895
10	0436	0447	0605	1	3			1		4	0438	3895
10	0826	0838	0939	2	5	2		1	1	3	0826	3886
10	1615	1645	1800	1	3					2	1616	3901
10	1644	1656	1835	1-	3			1		2	1640	3901
11	0024	0030	0122	1-	3			1		1	0024	3901
11	0526	0532	0607	1-	1			1			0524E	3885
11	0636	0644	0808	1-	3			1		3	0636	3901
11	1203	1216	1245	1	3					7	1212	3901
11	1323	1345	1435	1-	3		1	1			1324	3902
11	1654	1705	1830	2	3					14	NF	
11	2045	2108	2145	1	3					3	NF	
12	0655	0706	0757	1-	1			1			0655	3895
12	1553	1644	1815	1	3			1		3	1539	3902

SUDDEN IONOSPHERIC DISTURBANCES

September 1982

Day	Start (UT)	Max (UT)	End (UT)	Imp	Wide-spread Index	Number of Station Reports by Type SWF	SEA	SPA	LF-SPA	SES	Known Flare	NOAA/USAF Region
13	0451	0509	0623	1-	1			1			0455	3905
13	0635	0643	0714	1-	1			1			0634	No Data
13	0831	0838	0921	1	1		1				NF	
13	0922	0927	1029	1	1		1				NF	
13	1134	1150	1227	1-	1			1			*	
13	1333	1340	1420	1-	3		1	1			*	
13	1455	1530	1655	2	3					4	NF	
13	1524	1535	1630	2	3					6	NF	
14	0110	0122	0254	1	3			1		4	0109	3908
14	1448	1513	1545	1-	3		1			2	NF	
14	1600	1615	1634	1	3		2				NF	
14	1738	1800	1830	1-	3					3	NF	
15	0214	0227	0345	1	3			1		5	0216E	No Data
15	0600	0627	0736	1-	3			1		2	0602	3908
15	0743	0805	0840	1-	3			1		1	0745	No Data
15	0916	0920	0950	1	3		2				NF	
15	1328	1335	1410	1	1		1				1334	3908
15	1823	1831	2045	1+	5	1	1	1	1	15	1824E	3908
16	0303	0315	0345	1-	1					1	NF	
16	0800	0813	0844	1	1		1				NF	
17	1353		1407	1-	3		1	1			NF	
17	1429	1434	1456	1	3		2				NF	
18	1829	1833	2000	1	1					1	1832	3906
18	2004	2011	2035	1-	1					1	*	
19	1242	1330	1338	1	3		2				NF	
19	1422	1434	1500	1-	3			1		3	NF	
19	1447	1508	1610	1	3		2				1435	3905
19	2313	2329	2356	1-	1			1			2315	3910
20	1408	1422	1515	1+	3					5	1404	3907
20	1724	1743	1800	1	3					4	NF	
21	0345	0400	0430	1-	1					1	*	
21	1914	1928	2000	2	3	1				8	1921E	3910
21	2139	2152	2247	2	3	1				9	NF	
22	0915	0924	1000	1	1					1	0922	3910
22	1820	1822	1910	1-	3					7	1821	3910
23	1405	1415	1517	1-	1			1			1405	3919
24	0706	0713	0804	1-	1			1			0702	3917
24	0835	0838	0854	1-	3		1	1			0821E	3908
24	1431	1443	1501	1	3					3	NF	
24	1540	1553	1630	1	3					2	1548	3919
25	1332	1400	1445	1+	3					2	NF	
25	1930	1954	2045	1+	3					6	NF	
25	2048	2106	2145	1-	3					9	NF	
26	0634	0644	0733	2	1		1				NF	
26	1510	1528	1600	1	3					2	NF	
26	1833	1853	1930	1	3	1				1	1834	3919
26	2108	2128	2238	1-	3	1		1		3	2100	3917
26	2316	2334	0030	1	5	3		1		5	2317	3917
27	0407	0415	0438	1-	3			1		1	0406	3917
27	1538	1540	1605	1+	1					1	1532	3922
27	1615	1627	1735	1-	3			1		1	1620E	3922

SUDDEN IONOSPHERIC DISTURBANCES

September 1982

Day	Start (UT)	Max (UT)	End (UT)	Imp	Wide-spread Index	Number of Station Reports by Type SWF	SEA	SPA	LF-SPA	SES	Known Flare	NOAA/USAF Region
27	2332	2345	0000	1-	1					1	2341	3924
28	0339	0350	0425	1-	1			1			0340	3917
28	1117	1138	1230	1	3	1	1		1	1	*	
28	1616	1620	1628	1-	1	1					NF	
29	0016	0024	0045	1-	1			1			0014	3919
29	0107	0114	0144	1-	1			1			0105	3923
29	0809	0827	0956	1-	3			1		1	0802	3922
29	1520	1527	1620	1	5	3	2			2	1519	3922
29	1755	1810	1900	1-	3			1		1	1800E	3919
29	1829	1833	1900	1	3					2	1832E	3919
29	1928	1930	2001	1	3					2	1932	3921
29	2230	2246	2322	1-	1			1			2235	3928
30	0135	0145	0342	2+	3	2		1		7	0132	3922
30	0616	0621	0739	1-	3			1		2	0615	3922
30	0835	0842	0920	1-	3	1	2	1	1	1	0837	3922
30	1036	1042	1120	1-	3	1	3	2	1	1	*	
30	1205	1210	1258	1-	3	1		1	1	1	1214	3922
30	1343	1400	1430	1-	3	1	2	1	1	2	1317	3922
30	1515	1523	1550	1-	3					2	*	
30	1632	1636	1730	1-	3			1		3	1630	3922
30	1803	1807	1900	1-	3			1		1	1803	3922
30	2003	2052	2056	1-	3			1		2	2003	3922
30	2338	2345	0015	1-	1			1			2336	3922

* = No Flare Patrol
NF = No Flare Reported

SUDDEN IONOSPHERIC DISTURBANCES

September 1982

OBSERVATORIES REPORTING FOR SEPTEMBER 1982*

Ayrshire, Scotland (AY)	SES	Maui, Hawaii, USA (MI)	SWF
Darmstadt, GFR (DA)	SWF	Mayfield Village, Ohio, USA (A28)	SES
Edenvale, South Africa (A52)	SES	Missoula, Montana, USA (A31)	SWS, SWF
Frenchtown, Montana, USA (A56)	SES	Panska Ves, Czechoslovakia (PU)	SEA, SWF, SFA
Glenorchy, Tasmania, Australia (GH)	SES	Paterson, New Jersey, USA (A46)	SES
Hiraiso, Japan (HI)	SWF	Portage, Michigan, USA (A51)	SES
Hobart, Tasmania, Australia (TA)	SEA	Roswell, New Mexico, USA (RW)	SES
Houston, Texas, USA (A50)	SES	San Antonio, Texas, USA (SA)	SES
Huancayo, Peru (HU)	SWF	Sao Paulo, Brazil (UM)	SES, SPA
Inubo, Japsan (IN)	SPA	Simi Valley, California, USA (A57)	SES
Juliusruh, GDR (JU)	SWF	Tavares, Florida, USA (A49)	SES
Kuhlungsborn, GDR (KU)	SPA, SEA	Upice, Czechoslovakia (UI)	SEA
Lake Hiawatha, New Jersey, USA (A32)	SES	Valley Cottage, New York, USA (A01)	SES
Latrobe, Pennsylvania, USA (A19)	SES	Vsetin, Czechoslovakia (VS)	SEA
Louisville, Kentucky, USA (A26)	SES	Walla Walla, Washington, USA (A55)	SES

*Observations are not necessarily continuous for each reporting station.

SIDs by NOAA/USAF REGION

Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Region Number																														
3878				1																										
3882			1																											
3883		1	1																											
3885		1					1		2		1																			
3886	1	1	4	2				1		1																				
3887					1																									
3891					1																									
3895									1	2		1																		
3901									1	2	3																			
3902											1	1																		
3905													1						1											
3906																		1												
3907																				1										
3908														1	3									1						
3910																			1		1	2								
3917																								1		2	1	1		
3919																							1	1		1			3	
3921																													1	
3922																											2		2	9
3923																													1	
3924																											1			
3928																													1	
No Reported Flares	4		1			1		1	1		2		4	3	1	2	2		2	1	1			1	3	2		1		
No Flare Patrol	5		1			1		1					2					1			1							1		2
No Data					1	2							1		2															
Event Totals	10	3	8	3	3	4	1	3	5	5	7	2	8	4	6	2	2	2	4	2	3	2	1	4	3	5	4	3	8	11

P I O N E E R X I I
(VENUS ORBITER)
INTERPLANETARY MAGNETIC FIELD
MAGNITUDES

SEPTEMBER 1982

DAY	TIME	BMAG (GAMMAS)
1	13:38:30	16.40
2	13:35:50	11.55
3	13:38:20	12.50
4	--	--
5	--	--
6	16:41:10	13.36
7	13:35:50	26.60
8	13:44:10	17.41
9	13:35:40	9.23
10	13:35:40	13.22
11	13:42:20	11.72
12	13:37:00	10.16
13	13:36:30	14.77
14	13:35:40	15.04
15	14:34:00	15.01
16	16:41:20	16.93
17	13:31:50	12.28
18	13:31:20	10.67
19	13:42:00	12.88
20	13:30:40	14.84
21	13:31:00	15.47
22	13:30:50	13.66
23	15:47:00	49.94
24	13:30:50	14.17
25	14:19:00	12.45
26	13:30:40	13.09
27	13:30:40	15.02
28	13:33:00	12.19
29	13:30:50	11.32
30	20:58:30	11.87

SEPTEMBER 1982

Day	Observation Start (UT)	Observation End (UT)	Sta	Decimetric Band Start (UT)	Decimetric Band End (UT)	Decimetric Band Int (1-3)	Metric Band Start (UT)	Metric Band End (UT)	Metric Band Int (1-3)	Dekametric Band Start (UT)	Dekametric Band End (UT)	Dekametric Band Int (1-3)	Spectral Type
01	0000	0732	CULG	0000.0	0150.0								IS,W
			CULG				0020.0	0115.0					IIIS,W
			CULG				0023.0	0114.5	1				IS
			CULG				0116.5	0727.5	1				IIIN
			LEAR				0252.2	0252.9	1				III
			CULG	0331.5	0406.0								IS,W
			CULG	0551.0	0731.5	1	0606.0	0730.0	1				IS,C
			WEIS				0750.0	1809.0	2				IN
	0517	1809	WEIS				0754.7	0754.9	1				IIIG
			WEIS				1104.5	1105.9	3				IIIGG
			WEIS				1107.3	1107.6	3				DCIM
	1300	2305	HARV	1334.0	1940.0	1							IN
			HARV				1417.0	1625.0	1				IN
			HARV				1425.0	1426.0	2				IIIG
			HARV				1517.0	1518.0	2				IIIG
			HARV				1947.0		1	1947.0		1	IIIGW
	2032	2400	CULG	2059.5	2142.5	1							IN
			CULG	2127.0	2128.5	2	2127.0	2128.5	2				IIIGG
			HARV				2127.0	2128.0	3				IIIGG
			CULG	2300.5	2316.0	1	2247.5	2253.0	1				IIIN
			CULG	2319.5	2320.0	2	2319.5	2320.0	1				IIIG
02	0000	0732	CULG	0104.5	0543.5								IS,W
			CULG	0131.0	0133.5	1							IIIG
			CULG				0136.5	0719.0	1				IIIN
			LEAR				0255.9	0256.1	1				III
			CULG				0256.0		2				IIIB
			CULG				0424.0		2				IIIB
			CULG				0714.0		2				IIIB
	0519	1721	WEIS				1105.0	1428.0	1				IN
	1300	2250	HARV				1811.0	1812.0	1				IIIB
			HARV				1844.0		1				IIIB
			HARV	1846.0	1847.0	1							IIIG
			HARV	2021.0	2023.0	2	2021.0	2023.0	2				IIIG
	2032	2400	CULG				2048.0		1				IIIB
			HARV				2048.0	2049.0	1				IIIB
			CULG				2056.0	2058.5	1				IIIG
			HARV				2056.0	2100.0	3	2059.0	2100.0	2	IIIGG,V
			PALE				2059.4	2100.8	2				III
			CULG				2059.5	2100.0	3				IIIG,V,U
03			LEAR				0016.4	0021.8	1				III
	0000	0730	CULG				0016.5		2				IIIB,U
			PALE				0019.3	0021.3	2				III
			CULG				0019.5	0021.0	2	0019.5	0021.0	1	IIIG
			LEAR				0133.9	0134.2	1				III
			CULG				0134.0		1				IIIG
			CULG				0210.5	0719.0	1				IIIN
			LEAR				0307.2	0307.4	1				III
			LEAR				0449.0	0449.1	1				III
	0522	1328	WEIS				0759.5	0759.8	1				IIIG
			LEAR				0759.6	0759.8	1				III
			WEIS				0909.7	0909.9	1				IIIB
			WEIS				0928.2	0928.4	2				IIIG
			WEIS				1202.6	1204.1	2				DCIM,RS
	1400	1723	WEIS										
	1300	2325	HARV	1424.0	1425.0	1							IW
			CULG				2039.0		1				IIIB
	2032	2400	CULG	2039.0		2							DCIM
			HARV				2039.0		1				IIIBW
			CULG				2142.5		1				IIIB,U
			CULG				2201.0	2202.0	1				IIIG
			CULG				2340.5		1				IIIB
04	0000	0731	CULG				0045.5	0050.5	3	0047.5	0049.5	1	IIIG,V
			LEAR				0045.8	0051.3	2				V
			CULG	0046.0	0054.5	3	0046.0	0054.5	2				IIIS
			PALE				0046.9	0050.8	3			II	
			CULG							0050.0	0110.0	1	SWF
			CULG				0056.5	0116.5	3			II	
			LEAR				0057.0	0117.5	1			II	

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

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Day	Observation Start (UT)	Observation End (UT)	Sta	Decimetric Band Start (UT)	Decimetric Band End (UT)	Decimetric Band Int (1-3)	Metric Band Start (UT)	Metric Band End (UT)	Metric Band Int (1-3)	Dekametric Band Start (UT)	Dekametric Band End (UT)	Dekametric Band Int (1-3)	Spectral Type
04			PALE				0057.5	0107.8	2				II
			CULG	0101.5	0106.0	1	0101.5	0106.0	1				IIIN
			CULG				0117.5	0131.5	1				IN
			CULG	0120.5	0121.0	1	0120.5	0121.0	1				IIIG
			CULG				0155.0	0157.5	2				IIIG,V
			CULG				0155.0	0400.0	2				IS,C,DC
			LEAR				0155.2	0159.5	1				V
			PALE				0156.0	0157.9	2				III
			CULG	0202.5	0206.5	1							DCIM,N
			CULG				0221.0		1				IIIB
			LEAR				0224.2	0229.0	1				III
			CULG				0236.0	0248.5	1				POSS II
			LEAR				0237.0	0700.0	1				IV
			CULG	0245.0	0300.0	3							CONT
			CULG	0245.0	0344.0	1							DCIM,N
			CULG	0300.0	0329.0	2							CONT
			CULG	0329.0	0337.5	3							CONT
			CULG				0400.0	0530.0	1				IS,C,DC
			CULG				0721.5	0722.5	2				IIIG
			LEAR				0722.3	0722.8	1				III
	0520	1721	WEIS				0722.3	0722.7	2				IIIG
			WEIS				0839.8	0840.2	3				U
			WEIS				0938.1	0938.2	2				U
			WEIS				1004.3	1004.6	2				U
			WEIS				1013.6	1013.8	1				U
	1300	2245	HARV				1300.0		1				IIIGW
			WEIS				1300.1	1300.4	2				IIIG
			HARV				1358.0	1906.0	2	1620.0			IIIN
			HARV				1502.0		1				IIIG
			HARV				1513.0	1514.0	3				IIIG
			WEIS				1533.6	1513.8	3				U
			HARV				1553.0	1554.0	2	1553.0		1	IIIG
			WEIS				1553.3	1553.9	2				IIIG
			HARV				1640.0	1641.0	2	1640.0	1641.0	2	IIIGG
			WEIS				1640.3	1640.8	2				IIIG
			HARV				1946.0	1947.0	2	1946.0	1947.0	2	IIIG,V
			PALE				1946.6	1947.1	2				V
			HARV				2028.0	2029.0	2				IIIG
			CULG				2051.0		2				IIIB
			HARV				2051.0		2				IIIG
	2031	2400	CULG				2077.5	2052.0	1				IIIG
			CULG				2143.0	2146.0	1				IIIN
			HARV				2144.0	2146.0	2				IIIG,V
05	0000	0731	CULG				0005.0	0006.0	2				IIIG
			LEAR				0005.3	0006.3	1				III
			CULG	0126.5	0127.0	1							DCIM
			CULG				0433.0	0433.5	1				IIIG
			CULG				0458.5	0500.0	2				IIIG,V
			LEAR				0458.6	0500.2	1				III
			CULG				0538.0	0538.5	2				IIIG
			CULG				0547.5	0548.0	1				IIIG
			CULG				0720.0		1				IIIB
			LEAR				0720.2	0720.8	1				III
	0746	1149	WEIS				0950.1	0950.8	1				IIIG
			WEIS				0959.4	0959.7	1				IIIG
			WEIS				1023.1	1023.3	1				IIIB
			WEIS				1032.7	1033.0	1				IIIB
			WEIS				1114.8	1114.9	2				IIIB
	1217	1721	WEIS				1237.4	1237.6	1				IIIB
			WEIS				1302.4	1303.5	2				IIIG
			WEIS				1321.3	1322.0	2				IIIG
	1300	2250	HARV	1352.0	1353.0	1							IIIGW
			WEIS				1352.4	1352.6	2				IIIG
			HARV	1810.0	1811.0	2	1810.0	1811.0	2				IIIG
			HARV				1909.0	1912.0	1	1909.0	1912.0	1	IIIGW
			HARV	2021.0	2022.0	2							IIIG
	2031	2400	CULG										
06	0000	0730	CULG										
			CULG	0152.0	0300.0	1							P,N

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06			CULG	0153.0	0153.5	1							CONT
			CULG							0154.0	0203.0		SWF,W
	0522	1718	WEIS				1017.3	1017.8	3				IIIG
	1300	2245	HARV				1722.0		1				I
			HARV				1752.0		1				IIIBW
			HARV				1830.0	1831.0	2	1830.0	1831.0	2	IIIB
			HARV	2021.0	2022.0	2							IIIG
	2031	2400	CULG										
07	0000	0730	CULG				0253.5	0300.0	1				IIIGG
			CULG	0503.0	0504.0	1							DCIM
			CULG				0513.5		1				IIIB
	0522	1839	WEIS				0955.3	0955.7	2				IIIB
	1300	2300	HARV				1607.0	1608.0	1				IIIBW
			HARV							1656.0		1	IIIBW
			HARV				1702.0		2	1702.0		2	IIIB
			HARV	1709.0	1711.0	2	1709.0	1710.0	2				IIIGG
			HARV				1920.0	1921.0	2	1920.0	1921.0	2	IIIGG
			PALE				1920.2	1921.1	2				V
			HARV				1945.0	1947.0	1	1945.0	1947.0	1	
			HARV				2108.0	2110.0	2				II
	2030	2302	CULG				2108.5	2112.0	1				II
			CULG				2119.5		1				IIIB
			HARV				2136.0	2137.0	1				IIIGW
			CULG				2136.5	2138.0	1				IIIG
			HARV				2143.0	2144.0	1	2143.0	2144.0	1	IIIBW
			HARV				2200.0	2202.0	2				IIIGG
			CULG				2201.0	2202.5	2				IIIG
			CULG				2227.0	2227.5	1				IIIG
			LEAR				2359.7	0009.9	1				CONT
08			LEAR				0025.9	0034.6	1				III
			PALE				0025.9	0026.6	2				III
			PALE				0032.9	0034.5	2				V
			LEAR				0058.5	0058.7	1				III
			LEAR				0118.5	0118.7	1				III
			LEAR				0136.9	0146.6	1				III
			PALE				0144.1	0146.5	2				III
			LEAR				0201.8	0202.1	1				III
			LEAR				0210.8	0211.1	1				III
			LEAR				0226.1	0238.1	1				CONT
			PALE				0227.9	0229.0	2				III
	0214	0530	CULG				0228.0	0229.0	2	0228.5	0229.0	2	IIIG
			CULG				0234.5	0237.5	1				IIIGG
			LEAR				0305.2	0327.9	1				CONT
			CULG				0317.0	0318.5	2				IIIG
			LEAR				0351.7	0352.0	1				III
			CULG				0352.0		2				IIIB
			LEAR				0452.0	0459.5	1				III
			CULG	0505.0	0530.0								IS,W
			LEAR				0553.9	0555.1	1				III
	0552	1714	WEIS				0554.6	0554.8	1				IIIG
			LEAR				0637.7	0653.2	1				CONT
			WEIS				0638.2	0638.4	1				IIIB
			WEIS				0643.4	0647.6	1				IIIG
			LEAR				0736.6	0816.1	1				CONT
			WEIS				0736.7	0736.9	2				IIIG
			WEIS				0741.2	0741.7	3				IIIG
			WEIS				0811.9	0812.4	2				IIIG
			WEIS				0815.9	0816.2	1				IIIG
			WEIS				0827.0	0827.2	1				IIIB
			WEIS				0828.9	0829.0	1				IIIB
			WEIS				0832.3	0833.1	1				IIIG
			WEIS				0834.7	0834.9	2				IIIB
			WEIS				0921.2	0922.0	1				IIIG
			WEIS				0956.1	0958.2	2				IIIG
			WEIS				1004.1	1004.3	1				IIIB
			WEIS				1020.8	1020.9	1				IIIB
			WEIS				1246.0	1246.5	2				IIIG
	1300	2245	HARV	1325.0	1326.0	2	1326.0		2				IIIG
			WEIS				1325.6	1326.6	2				DCIM

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08			HARV	1434.0		1	1434.0		1				IIIB
			HARV				1513.0	1519.0	2	1516.0		2	IIIGG
			WEIS				1513.2	1513.5	1				IIIG
			WEIS				1515.7	1518.7	2				IIIG
			HARV				1736.0	1740.0	2	1736.0	1740.0	2	IIIG
			HARV				1921.0	1927.0	3	1921.0	1927.0	2	IIIGG
	2030	2400	CULG	2136.0	2137.0	1							IIIG
			HARV	2136.0	2137.0	2							IIIG
			CULG				2137.5		2				IIIB
			HARV	2145.0	2146.0	1							IIIGW
			CULG				2146.0	2151.0	1				IIIGG
			HARV				2147.0	2151.0	2				IIIGG
			CULG				2150.0		2				IIIB
09			LEAR				0012.2	0203.5	2				IV
	0000	0729	CULG				0012.5	0036.0	3	0012.5	0035.0	1	IIIS
			CULG	0016.5	0040.0	2							CONT
			PALE				0016.6	0027.7	2				II
			CULG				0018.0	0335.0	1				IS,C,DC
			CULG				0021.5	0039.0	1				POSS II
			CULG	0026.5	0058.0	2							DCIM,N
			PALE				0027.7	0035.9	2				IV
			PALE				0035.9	0305.0	2				B
			CULG				0104.5	0550.0	2	0057.0	0549.0	1	IIIG,N
			CULG				0200.5	0202.5	1	0201.0	0201.5	1	IIIGG
			CULG	0200.5	0202.5	2							DCIM
			CULG				0225.0	0707.0	1				IIIN
			CULG	0409.5	0410.5	3	0410.5		2				IIIG
			LEAR				0410.4	0411.5	1				III
			CULG				0411.0	0411.5	3	0411.0	0411.5	2	IIIG
			LEAR				0420.2	0421.0	1				III
			LEAR				0449.0	0509.7	1				CONT
			LEAR				0542.3	0549.2	1				III
	0531	0605	WEIS				0543.9	0550.3	2				IIIGG
			CULG				0544.5	0546.0	3	0545.0	0545.5	1	IIIGG
			CULG	0549.5	0600.0	1							IIIN
			CULG	0711.5	0718.0	1							IS,C
	0611	1713	WEIS				0711.6	0717.7	2				DCIM
			LEAR				0733.5	0735.3	1				III
			WEIS				0733.7	0735.2	2				IIIG
			WEIS				0823.9	0824.1	1				IIIB
			WEIS				0827.1	0828.6	2				IIIG
			LEAR				0827.7	0828.5	1				III
			LEAR				0906.7	0910.2	1				III
			WEIS				0907.7	0911.8	3				IIIGG
			WEIS				0929.3	0930.9	2				IIIG
			LEAR				0930.5	0931.1	1				III
			WEIS				0933.3	0934.2	1				IIIG
			LEAR				0941.7	0942.4	1				III
			WEIS				0942.2	0943.2	2				IIIG
			WEIS				1008.1	1009.9	2				IIIG
			WEIS				1043.9	1044.7	2				IIIG
			WEIS				1050.0	1129.0	1				CONT
			WEIS				1050.4	1054.7	1				IIIG
			WEIS				1056.3	1140.8	2				IIIS
			WEIS				1146.2	1146.3	1				IIIB
			WEIS				1148.2	1149.1	3				IIIG
			WEIS				1205.7	1206.1	2				IIIG
			WEIS				1208.7	1209.5	1				IIIG
			HARV	1305.0	1347.0	1							IIIN
	1300	2305	HARV	1305.0	1446.0	1							IN
			HARV				1505.0	1704.0	1	1559.0	1704.0	1	IIIN
			HARV	1555.0	1556.0	2							IIIG
			HARV	1617.0	1623.0	2							IIIGG
			HARV	1753.0	1756.0	1							IIIGW
	2030	2400	CULG				2155.5	2201.5	1				IIIN
10	0000	0729	CULG	0113.0	0115.5	1							IIIN
			CULG				0354.0		1				IIIB
	0528	1432	WEIS				0826.6	0828.3	2				DCIM
			WEIS				1124.5	1124.6	1				IIIB

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Day	Observation Start (UT)	Observation End (UT)	Sta	Decimetric Band Start (UT)	Decimetric Band End (UT)	Decimetric Band Int (1-3)	Metric Band Start (UT)	Metric Band End (UT)	Metric Band Int (1-3)	Dekametric Band Start (UT)	Dekametric Band End (UT)	Dekametric Band Int (1-3)	Spectral Type
10	1300	2250	HARV	1340.0	1341.0	1							IIIGW
	1446	1711	WEIS										
			HARV	1457.0	2228.0	1							INW
			HARV				1654.0		2				IIIG
	2045	2400	CULG										
11	0000	0729	CULG										
	1300	2255	HARV				1314.0	1315.0	1				I
			HARV				1603.0	1605.0	2	1603.0	1605.0	1	IIIG
	0529	1709	WEIS				1603.2	1604.8	1				IIIG
			HARV				1719.0	1721.0	2	1719.0	1721.0	1	IIIG
			HARV				1943.0	1944.0	2	1943.0	1944.0	1	IIIB
	2029	2400	CULG				2050.0		3				IIIB
			HARV				2050.0		2	2050.0		1	IIIB
			PALE				2050.4	2105.0	1				S
			HARV				2104.0	2105.0	2	2104.0	2105.0	2	IIIB
			CULG				2105.0		3				IIIB
			HARV				2151.0	2154.0	2				I
12	0000	0728	CULG				0643.5	0644.0	3				IIIB,V
			LEAR				0643.6	0644.0	1				III
	0530	1012	WEIS				0643.6	0643.7	1				IIIG
	1016	1707	WEIS				1057.9	1058.2	2				U
			WEIS				1100.7	1101.2	2				IIIG
			WEIS				1103.7	1104.2	1				IIIG
			WEIS				1106.2	1106.9	1				IIIG,RS
			WEIS				1110.7	1111.1	1				IIIG
			WEIS				1142.4	1143.1	3				IIIG,U
			WEIS				1144.0	1151.7	2				IIIG
			WEIS				1206.1	1215.6	3				IIIGG
			WEIS				1229.4	1229.7	1				IIIG
			WEIS				1303.6	1306.7	2				IIIG
	1300	2340	HARV				1336.0	1337.0	2				IIIG
			WEIS				1336.4	1336.7	3				IIIB
			HARV				1529.0	1533.0	2	1529.0	1533.0	1	IIIGG
			WEIS				1529.6	1533.0	2				IIIG
			HARV				1537.0	1548.0	2	1537.0	1542.0	1	IIIGG
			WEIS				1537.3	1538.0	1				IIIG
			WEIS				1541.1	1541.8	1				IIIG
			HARV	1550.0	1609.0	2	1550.0	1620.0	3	1552.0	1550.0	1	IIIGG
			HARV	1550.0	1609.0	2	1600.0	1623.0	3				IV
			WEIS				1551.0	1607.0	2				IIIS
			WEIS				1604.0	1623.0	2				CONT
			HARV				1622.0	1649.0	1				I
			HARV				1631.0	1636.0	2				IIIGG
			HARV				1647.0	1654.0	2	1651.0	1654.0	1	IIIGG
			WEIS				1647.2	1647.4	1				IIIG
			HARV				1713.0	1714.0	2				IIIG
			HARV				1829.0		1				IIIG
			PALE				1854.8	1937.1	1				S
			HARV				1855.0	1858.0	3				IIIG
			HARV				1930.0	1931.0	1				IIIG
			HARV				1936.0	1938.0	3	1937.0		2	IIIGG
			HARV				2006.0	2007.0	1				IIIGW
			HARV				2018.0		1				IIIB
			HARV	2039.0		1							IIIGW
	2029	2400	CULG				2054.5	2055.5	3				IIIG,V
			PALE				2054.9	2055.2	2				III
			HARV				2055.0		3				IIIGG,V,U
			CULG				2154.0		1				IIIB,U
			HARV				2154.0	2155.0	2				IIIG,U
			CULG				2225.0	2226.0	2				IIIG
			HARV				2225.0	2226.0	2				IIIG
			HARV				2238.0	2239.0	1				IIIG
			CULG				2257.0	2259.0	1				IIIGG
			HARV				2257.0	2259.0	2				IIIGG
			LEAR				2305.9	2306.4	1				III
			CULG				2306.0	2306.5	3				IIIG
			HARV				2306.0		3				IIIG,U
			CULG				2325.5	2329.0	2				IIIGG
			HARV				2326.0	2329.0	2				IIIGG

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12			LEAR				2326.1	2329.1	1				III
			PALE				2326.3	2326.4	2				III
13	0000	0728	CULG				0023.0	0024.0	1				IIIGG
			LEAR				0024.4	0024.5	1				III
			CULG				0024.5	0721.0	1				IIIN
			CULG				0045.0	0726.5	2	0155.0		2	IIIG,N
			LEAR				0045.3	0045.6	1				III
			LEAR				0154.9	0155.8	1				III
			CULG				0219.0	0220.5	3				IIIG,V,U
			LEAR				0219.2	0222.8	1				III
			PALE				0219.2	0222.5	2				III
			CULG				0221.5	0222.5	3				IIIG,V,U
			CULG				0410.0	0705.0	1				IS,C,DC
			CULG				0428.0	0705.0	1				IIIS
			LEAR				0430.2	0433.6	1				III
			LEAR				0438.0	0550.5	1				B
			CULG				0508.0	0513.5	1				POSS II
			LEAR				0606.0	0609.5	1				III
			LEAR				0630.0	0726.5	1				B
	0532	0822	WEIS				0711.3	0711.4	1				IIIG
			WEIS				0722.1	0722.4	1				IIIB,U
			WEIS				0726.1	0726.3	1				IIIB,U
	0838	1705	WEIS				0839.4	0842.1	1				IIIG
			LEAR				0839.8	0840.4	1				III
			LEAR				0927.8	0934.0	1				III
			WEIS				0927.8	0930.8	3				IIIGG
			WEIS				0932.3	0934.3	3				IIIGG
			WEIS				1238.9	1239.0	1				IIIB
			WEIS				1241.2	1242.9	2				IIIG
	1300	2250	HARV				1341.0	1342.0	2				IIIGG
			WEIS				1341.1	1342.3	1				IIIG
			HARV				1410.0	1417.0	1				IIIGGW
			HARV				1420.0	1428.0	2				IIIGG
			HARV				1433.0	1434.0	2				IIIGG
			HARV				1545.0	1546.0	1				IIIGG
			HARV				1602.0		1				IIIBW
			HARV				1617.0	1626.0	2				IIIGG
			WEIS				1620.0	1621.3	2				IIIG
			HARV				1646.0	1648.0	2				IIIGG
			HARV				1746.0		1	1746.0		1	IIIBW
			HARV	1807.0	2131.0	1							INW
			HARV				2016.0	2017.0	2	2016.0	2017.0	2	IIIG
			PALE				2016.3	2016.7	1				III
			CULG				2037.5	2107.5	1				IIIN
	2029	2202	CULG	2044.0	2202.5	1							IS
			HARV				2117.0	2244.0	1				I
			CULG				2141.0	2202.5	1				IN
	2202	2400	CULG				2336.0		1				IIIG
14	0000	0730	CULG				0102.5	0108.0	1				IIIN
			LEAR				0104.8	0108.5	1				III
			LEAR				0109.7	0115.3	2				III
			PALE				0110.3	0114.5	2				V
			CULG	0111.0	0114.0	2	0110.0	0115.0	3	0110.0	0114.0	1	IIIGG
			CULG				0120.0	0135.0	3				II
			LEAR				0120.0	0143.5	2				II
			PALE				0120.0	0132.0	2				II
			CULG				0142.0	0722.0	2				IIIN
			LEAR				0154.0	0154.7	1				III
			LEAR				0242.2	0242.9	1				III
			LEAR				0311.8	0312.1	1				III
			CULG				0354.0	0705.5	1				IIIN
	0531	0716	WEIS										
			LEAR				0721.5	0721.8	1				III
	0724	1703	WEIS				0938.1	0941.4	3				IIIGG,U
			LEAR				0938.7	0941.3	1				III
			WEIS				1017.1	1018.8	1				IIIG
			WEIS				1151.1	1152.3	2				IIIG
	1300	2255	HARV				1309.0	2241.0	2				IIIN
			HARV				1356.0	1357.0	3				IIIG,V

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14			WEIS				1356.4	1357.4	3				IIIG
			HARV				1405.0	1407.0	2				IIIGG,V
			WEIS				1406.5	1407.7	3				IIIG
			SGMR				1407.1	1407.3	1				III
			HARV				1440.0		2				IIIG
			HARV				1544.0		2				IIIG
			HARV				1627.0	1628.0	3	1627.0	1628.0	2	IIIGG
			SGMR				1628.0	1628.5	1				III
			WEIS				1628.2	1628.4	2				IIIG
			HARV				1850.0		2				IIIG
			HARV				1905.0	1906.0	1				IIIGG
			HARV				2003.0	2015.0	2	2008.0		1	IIIGG
			PALE				2010.3	2010.6	1				III
			PALE				2016.8	2018.5	2				V
			HARV	2017.0		1	2016.0	2018.0	3	2017.0	2018.0	2	IIIGG,V
			HARV				2021.0	2025.0	2	2023.0	2025.0	1	IIIGG
			HARV				2028.0	2030.0	1				IIIGG
			HARV				2030.0	2034.0	2			II	
			HARV				2037.0	2038.0	2				IIIG
			HARV				2112.0	2018.0	2	2116.0		2	IIIGG
			PALE				2115.9	2116.4	2				III
	2055	2400	CULG				2116.0	2118.5	2				IIIG
			HARV				2147.0	2255.0	1				I
			CULG	2215.0	2215.5	1	2215.0	2216.0	3				IIIG
			HARV	2215.0		2	2214.0	2216.0	3	2215.0		2	IIIGG
			PALE				2215.2	2224.5	2				III
			HARV	2223.0	2225.0	2	2224.0	2225.0	3	2224.0		1	IIIGG
			CULG				2223.5	2225.5	2				IIIG
			HARV				2248.0	2250.0	2				IIIGG
			LEAR				2345.9	2346.3	1				III
			PALE				2345.9	2346.2	2				III
			CULG				2346.0	2347.0	2				IIIG
			LEAR				2352.9	2355.7	3				III
			PALE				2352.9	2354.6	3				V
			CULG				2353.0	2355.0	3	2353.0	2355.0	3	IIIG,V
15			LEAR				0116.3	0117.3	2				III
			PALE				0116.3	0117.3	3				III
	0000	0213	CULG				0116.5	0117.5	3				IIIG
			LEAR				0143.8	0159.1	1				CONT
			CULG				0144.0	0159.0	2				IIIG,N
			PALE				0150.0	0154.2	2				III
	0213	0728	CULG				0213.0	0307.0					IS,W,DC
			CULG				0214.0	0223.5	2				IIIS
			LEAR				0215.7	0230.7	1				CONT
			PALE				0215.9	0230.4	2				CONT
			CULG				0217.5		3				IIIB
			CULG	0219.0	0224.5	1							IS
			CULG				0248.5		3				IIIB
			LEAR				0248.6	0249.0	1				III
			PALE				0248.7	0249.1	2				III
			CULG				0249.0	0722.0	1				IIIN
			LEAR				0359.2	0359.9	1				III
			CULG				0359.5		3				IIIB
			CULG				0445.0	0454.0					IIIS,W
			CULG	0558.5	0608.5	1	0558.5	0603.0	3				IIIGG,V
			WEIS				0558.8	0602.8	2				IIIG
			LEAR				0558.9	0606.0	1				III
			CULG				0608.0	0620.5	3			II	
	0535	1557	WEIS				0608.6	0619.6	2			II	HARM
			LEAR				0608.8	0621.0	1			II	
			CULG				0615.0	0700.0				IV	W
			CULG				0615.0	0717.0	1				IN
			LEAR				0746.3	0747.1	1				III
			WEIS				0746.3	0746.8	1				IIIG
			WEIS				0749.4	0750.9	1				IIIG
			LEAR				0758.2	0758.4	1				III
			WEIS				0758.2	0758.3	2				IIIB
			WEIS				0807.2	0810.0	1				IIIG
			WEIS				0901.0	1151.0	1				IN
			WEIS				0947.2	0947.4	1				IIIB

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15			WEIS				0957.7	0957.9	1				IIIG
			WEIS				1026.6	1927.8	2				IIIG
			WEIS				1122.4	1122.6	2				U
			WEIS				1222.6	1232.7	1				IIIB
	1300	2300	HARV				1329.0	2229.0	2				IIIN
			WEIS				1333.4	1341.0	3				IIIGG
			HARV				1334.0	1341.0	2				IIIGG
			HARV				1348.0	1351.0	3				IIIGG
			WEIS				1348.6	1351.2	2				IIIG,DCIM
			WEIS				1437.8	1438.0	1				IIIB
			HARV				1610.0	1611.0	2				IIIG,U
	1629	1700	WEIS				1651.3	1651.6	1				IIIG
			HARV	1652.0		2	1651.0	1652.0	3				IIIGG,U
			HARV				1703.0	1707.0	2				IIIGG
			PALE				1816.7	1821.5	2				V
			HARV	1817.0	1823.0	1	1816.0	1827.0	3	1817.0	1827.0	2	IIIGG,V
			SGMR				1817.0	1825.8	2				V
			PALE				1822.5	1825.3	3				V
			HARV	1823.0	1830.0	2						IV	
			HARV				1827.0	1851.0	3	1830.0	1843.0	2 II	
			PALE				1829.2	1842.3	2			II	
			SGMR				1830.7	1837.0	1			II	
			HARV				1834.0	1853.0	2				I
			PALE				1851.2	1851.5	2				III
			HARV	2019.0	2022.0	2	2019.0	2023.0	3				IIIGG
	2028	2400	CULG				2120.0	2338.5	1				IIIN
			CULG				2145.0		2				IIIB,U
16	0000	0727	CULG				0041.0	0704.5	1				IIIN
			LEAR				0041.5	0041.7	1				III
			LEAR				0131.9	0135.7	1				III
			CULG				0133.0	0318.5	2				IIIN
			CULG	0149.5		1	0150.0		3	0150.0		1	IIIG,U
			LEAR				0149.8	0150.6	2				III
			PALE				0149.9	0150.4	2				III
			CULG	0316.0	0316.5	1	0316.0	0317.0	3				IIIG,U
			LEAR				0316.0	0318.9	1				III
			PALE				0316.1	0318.9	2				III
			CULG				0329.0	0329.5	3				IIIG,U
			LEAR				0329.1	0329.5	1				III
			CULG	0509.5	0510.0	1	0509.5	0511.0	3				IIIG,U,V
			LEAR				0509.9	0511.6	2				III
			LEAR				0605.7	0606.1	1				III
			CULG				0626.5	0628.0	3				IIIG,V
	0550	1657	WEIS				0626.7	0628.2	3				IIIGG
			LEAR				0626.8	0628.3	2				III
			WEIS				0657.6	0700.6	3				IIIG
			CULG				0659.0	0700.0	3				IIIG
			LEAR				0659.2	0659.8	1				III
			WEIS				0928.9	0930.8	2				IIIG,DCIM
			WEIS				0935.8	0938.3	2				IIIGDCIMRS
			WEIS				1158.4	1158.5	2				IIIB
	1300	2245	HARV				1326.0	1333.0	2				IIIGG
			WEIS				1326.2	1326.8	1				IIIG
			WEIS				1329.4	1329.5	1				IIIG
			HARV				1339.0	1342.0	2				IIIGG
			WEIS				1339.7	1342.2	2				IIIG
			HARV				1458.0	1501.0	1				IIIG
			HARV				1628.0		1				IIIBW
			WEIS				1648.6	1650.6	3				IIIGG
			HARV	1649.0	1650.0	1	1649.0	1650.0	3	1649.0	1650.0	2	IIIGG,V
			SGMR				1649.8	1851.2	1				V
			HARV				1653.0		1				IIIBW
			HARV				1708.0		2				IIIGG
			HARV				1745.0	1747.0	2				IIIGG
			HARV				1750.0	1752.0	2				IIIGG
			HARV				1928.0		2				IIIB
			HARV				2116.0	2117.0	1				IIIG
	2027	2400	CULG	2321.5	2322.0	2	2321.5	2322.5	2				IIIG
17	0000	0727	CULG	0145.5	0146.0	2	0145.5	0146.5	3				IIIG,U

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17			CULG				0552.5		1				IIIB
			CULG				0646.0	7072.7					IS,W
	0543	1408	WEIS				0729.7	0732.8	3				IIIG,DCIM
			LEAR				0732.2	0733.4	1				III
			WEIS				0807.7	0808.0	1				IIIG
			WEIS				1043.9	1046.3	2				IIIG
			WEIS				1118.7	1119.1	2				IIIG,U
			WEIS				1231.0	1231.3	2				IIIG
			WEIS				1233.1	1233.9	3				IIIG
			SGMR				1233.2	1233.3	1				V
			WEIS				1235.9	1236.1	1				IIIG
	1300	2245	HARV				1305.0		2				IIIG
			WEIS				1305.1	1305.9	2				IIIG
			HARV				1308.0	2122.0	2	1803.0		1	IIIN
			WEIS				1310.9	1311.1	1				IIIB
			HARV				1321.0	1328.0	3	1322.0	1323.0	1	IIIGG
			WEIS				1323.6	1328.3	3				IIIGG
			SGMR				1324.8	1325.5	1				V
			WEIS				1328.3	1328.5	1				IIIG
			HARV				1348.0		2				IIIG
			WEIS				1354.3	1358.8	3				IIIGG
			HARV	1355.0	1359.0	2	1354.0	1403.0	3	1356.0	1358.0	1	IIIGG,V
			SGMR				1355.9	1358.5	1				V
			WEIS				1401.9	1403.2	2				IIIG
			HARV				1408.0	1420.0	3				IIIGG,U
			SGMR				1436.4	1508.1	1				S
			HARV	1438.0	1441.0	1	1435.0	1441.0	3	1436.0		1	IIIGG
			HARV	1446.0	1447.0	1	1447.0	1451.0	3	1450.0	1451.0	1	IIIGG,V
			HARV				1502.0		3				IIIG
			HARV				1506.0	1510.0	3	1508.0	1510.0	2	IIIGG,V
			HARV	1534.0	1535.0	1	1534.0	1535.0	3	1534.0	1535.0	2	IIIGG
	1520	1656	WEIS				1534.2	1535.3	2				IIIG,U
			SGMR				1541.7	1541.9	1				V
			WEIS				1541.8	1542.2	2				IIIG
			HARV				1542.0		2	1542.0		2	IIIG
			HARV				1723.0	1724.0	1				IIIGG
			HARV				1737.0	1738.0	1				IIIG
			HARV	1808.0		1	1808.0	1817.0	2				IIIGG
			HARV				1906.0	1909.0	2				IIIGG,U
			HARV	1940.0	1941.0	1	1940.0	1941.0	2	1940.0	1941.0	2	IIIG
			PALE				1940.4	1940.9	1				III
			HARV				2152.0	2153.0	2				IIIG
	2027	2400	CULG				2322.0		1				IIIB
18	0000	0725	CULG				0027.0		1				IIIB
			CULG	0142.0	0142.5	2	0142.0	0142.5	2				IIIG
			CULG	0142.0	0146.0	1							IIIG,N
			LEAR				0142.2	0142.4	1				III
			CULG	0540.0	0540.5	1	0540.0	0540.5	1				IIIG
			CULG	0557.5	0559.5	1	0557.5	0558.5	2				IIIG,V
			LEAR				0557.7	0558.4	1				III
			CULG				0718.5		1				IIIB
	0640	1653	WEIS				1020.3	1021.2	2				IIIG
			WEIS				1028.2	1038.9	2				DCIM
			WEIS				1242.8	1243.6	2				IIIG,DCIM
			WEIS				1300.7	1302.8	2				III,DCIM
	1315	2320	HARV	1334.0	1335.0	1							IW
			HARV				1344.0		2				IIIG
			HARV	1408.0	1411.0	1	1408.0	1411.0	2				IIIGG
			WEIS				1408.6	1411.4	2				DCIM,U
			HARV				1457.0	1500.0	1				IIIGG
			HARV				1506.0	1507.0	1				IIIG
			HARV				1513.0	1518.0	1				IIIGG
			HARV				1639.0	1640.0	3				IIIGG
			WEIS				1639.6	1640.1	2				IIIG
			HARV	1652.0	1653.0	1	1652.0	1653.0	3	1652.0	1653.0	1	IIIG
			WEIS				1652.3	1652.7	2				IIIG,U
			HARV				1820.0	1823.0	3	1823.0		1	IIIGG
	2027	2400	CULG	2045.0	2045.5	1	2045.0	2047.0	1				IIIG
			HARV	2045.0		1	2043.0	2047.0	2				IIIGG
			CULG	2358.0	2359.0	1	2358.0	2359.5	2				IIIG,V,U

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18			LEAR				2358.6	2359.4	1				III
19	0000	0726	CULG	0000.0	0001.0	1							IIIG
	0543	0917	WEIS										
	1315	2250	HARV	1425.0	2105.0	1							IN
			HARV				1432.0	1456.0	1	1501.0	1537.0	1	IN
			HARV	1434.0	1439.0	2							IIIG,RS
			HARV				1442.0	1443.0	2				IIIG
			HARV	1445.0	1626.0	2	1500.0	2250.0	3	1540.0	2100.0	2	IV
			WEIS				1458.0	1518.0	2				IS
	0932	1654	WEIS				1459.0	1521.0	2				II RS,H
			HARV				1500.0	2250.0	3	1540.0	2100.0	2	IC
			WEIS	1505.0	1515.5	2							SPIKES
			WEIS				1507.0	1654.0	3				IV
			WEIS	1511.0	1534.0	1							CONT
			SGMR				1526.3	2226.0	1				B
			HARV				1543.0		2	1543.0		2	IIIB
			WEIS				1559.7	1601.6	2				SPIKES
			HARV	1616.0	1618.0	2	1617.0	1618.0	1	1617.0	1618.0	1	IIIGG
			WEIS				1616.0	1618.2	1				DCIM
			PALE				1630.8	0405.0	2				B
	2026	2400	CULG				2036.0	2400.0	3				IS,C
			HARV	2119.0	2120.0	2	2119.0	2120.0	2				IIIGG
			CULG	2119.5	2120.0	2	2119.5	2120.0	2				IIIG
			LEAR				2232.0	1002.0	1				B
			LEAR				2358.6	2359.4	1				III
20	0000	0721	CULG				0000.0	0355.0	3				IS,C
			CULG				0216.0		2				IIIB
			CULG				0355.0	0721.0	2				IS,C
	0541	1651	WEIS				0544.0	1100.0	2				IS
	1315	2245	HARV				1453.0		1				IIIGW
			HARV				1604.0		2				IIIG
			HARV				1631.0	1632.0	1				IIIG
			HARV				1744.0		3	1744.0		2	IIIG
			SGMR				1744.0	1744.3	1				III
			PALE				1744.1	1744.3	2				V
			HARV				1748.0		2				IIIG
			HARV				1819.0		1				IIIGW
			HARV				1846.0	1848.0	1				IIIG
	2026	2400	CULG										
21	0000	0720	CULG	0049.5	0050.0	1							IIIG
			CULG	0224.0	0224.5	2							IIIG
			CULG				0343.0	0347.0	1				IIIG,N
	0544	0704	WEIS										
			CULG				0626.0	0630.0	1				IIIG,N
	0710	1649	WEIS				1105.3	1108.3	3				DCIM
	1315	2255	HARV				2207.0	2208.0	2				IIIG
	2025	2400	CULG				2250.0	2250.5	1				IIIG
			HARV				2250.0		2				IIIG
22	0000	0725	CULG										
	0543	1131	WEIS										
	1240	1615	WEIS										
	1315	2300	HARV	1448.0	1454.0	1							IIIGW
	1628	1646	WEIS										
			HARV	1821.0	1826.0	3							IIIGG
			HARV				1822.0		1				IW
			HARV				1826.0	1832.0	2				II
			HARV				1904.0		1				IIIGW,U
			HARV	1925.0	1928.0	1							IIIGG
			HARV	1951.0	1956.0	2							IIIGG
			HARV	2020.0	2021.0	2							IIIG
	2025	2400	CULG	2110.0	2111.0	2	2111.0		1				IIIG
			HARV	2110.0	2114.0	3	2111.0		2				IIIGG
			CULG	2310.5	2312.5	2							IIIG
			CULG	2349.5	2356.5	1							IIIN
23	0000	0713	CULG	0102.5		1							IIIG
			LEAR				0240.4	0240.5	1				III

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23			CULG				0240.5		1				IIIB
			CULG				0409.5		1	0409.5		1	IIIB
			CULG				0528.0	0528.5	1				IIIG,V
			LEAR				0528.0	0528.0	1				III
	0546	1645	WEIS										
	1315	2245	HARV	1527.0	1529.0	1							IIIGG
			HARV				1751.0		2	1751.0		2	IIIG
			PALE				1751.5	1751.6	1				III
			HARV				1806.0		2	1806.0		2	IIIG
			HARV				2038.0	2041.0	2	2038.0	2041.0	2	IIIGG
	2025	2400	CULG				2038.5	2041.0	3				IIIG
			PALE				2038.8	2040.5	2				III
			HARV	2141.0	2143.0	1	2141.0	2144.0	2	2144.0		2	IIIGG
			CULG				2141.5	2142.0	2				IIIG
			PALE				2141.6	2145.1	2				III
			CULG				2143.5	2144.0	3				IIIG
			HARV				2234.0	2235.0	2				IIIG
			CULG				2234.5	2254.0	1				IIIN
			PALE				2252.7	2321.0	2				CONT
			CULG	2308.5	2309.0	1							I
24			PALE				0012.9	0036.1	2				CONT
	0000	0724	CULG				0023.5	0057.0	1				IIIN
			LEAR				0053.4	0056.8	1				III
			LEAR				0358.9	0401.3	1				III
			CULG	0359.0	0400.5	1	0359.0	0401.0	2	0359.0	0401.0	1	IIIGG
			CULG				0414.5	0707.5	1				IIIN
			LEAR				0414.7	0414.8	1				III
			LEAR				0525.7	0528.8	1				III
			CULG				0528.5	0705.5	2				IIIN
			LEAR				0542.0	0544.7	1				III
			LEAR				0627.5	0628.0	1				III
			LEAR				0644.9	0645.3	1				III
	0545	1645	WEIS				0702.9	0703.6	1				IIIG
			LEAR				0704.2	0705.7	1				III
			WEIS				0816.4	0816.5	1				IIIB
			WEIS				0839.7	0839.8	1				IIIB
			WEIS				0850.1	0850.2	1				IIIB
			WEIS				0928.7	0928.8	1				IIIB
			WEIS				0950.4	0950.7	1				IIIB
			WEIS				0952.4	0952.7	2				IIIG
			WEIS				1033.3	1033.6	2				IIIB
			WEIS				1034.7	1037.0	3				IIIG
			WEIS				1042.8	1043.1	1				IIIB
			WEIS				1111.3	1111.7	2				IIIG
			WEIS				1113.0	1113.2	2				IIIB
			WEIS				1118.9	1119.1	1				IIIB
			WEIS				1122.1	1122.7	1				IIIG
			WEIS				1158.6	1159.2	2				IIIG
			WEIS				1317.6	1317.7	1				IIIB
			WEIS				1333.3	1333.4	1				IIIB
			WEIS				1347.8	1348.2	1				IIIG
	1315	2245	HARV				1348.0	1349.0	1				IIIGW
			HARV	1517.0	1518.0	1							I
			HARV	1812.0	1814.0	1	1812.0	1814.0	2	1814.0		2	IIIGG,U
			PALE				1813.6	1813.9	2				III
			HARV				1818.0	1819.0	1				IIIG
			HARV				2004.0		1	2004.0		1	IIIG
	2025	2400	CULG										
25	0000	0724	CULG				0145.0		1				IIIB
	0547	1641	WEIS				1048.0	1048.3	2				IIIG
			WEIS				1135.6	1136.7	2				IIIG
			WEIS				1143.6	1143.7	1				IIIB
			WEIS				1303.2	1303.5	1				IIIB
	1315	2255	HARV	1326.0	1903.0	1							INW
			WEIS				1501.5	1501.6	1				IIIB
			HARV				1543.0		1				IIIBW
			WEIS				1548.7	1549.3	1				IIIG
			HARV				1549.0		1	1549.0		1	IIIG
			WEIS				1623.2	1624.3	2				IIIG

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25			HARV	1626.0		1	1623.0	1624.0	3	1623.0	1625.0	2	IIIGG
			HARV				1644.0		2	1644.0		2	IIIG
			HARV				1653.0		2	1653.0		1	IIIG
			HARV				1823.0	1824.0	2	1823.0	1824.0	2	IIIG
			HARV				1857.0	1858.0	2	1857.0	1858.0	2	IIIGG
			PALE				1857.8	1858.5	1				III
			HARV				1950.0	1955.0	2	1950.0	1955.0	2	IIIGG
			PALE				1953.3	2046.1	2				CONT
			HARV				2000.0		1	2000.0		1	IIIB
			HARV				2012.0	2013.0	2	2012.0	2013.0	2	IIIG
			HARV				2033.0	2034.0	2	2033.0	2034.0	2	IIIG
	2025	2400	CULG				2033.5	2231.5	2	2217.5	2231.5	2	IIIN
			HARV				2046.0		2	2046.0		2	IIIG
			HARV				2133.0	2139.0	2	2133.0	2139.0	1	IIIGG
			PALE				2133.0	2139.3	2				III
			HARV				2217.0	2219.0	3	2219.0		2	IIIGG
			PALE				2217.2	2219.3	2				V
			LEAR				2218.9	2219.2	1				III
			CULG				2219.0	2219.5	3	2219.0	2219.5	3	IIIB
			HARV				2231.0	2232.0	2				IIIG
			PALE				2231.2	2231.8	2				V
26			LEAR				0022.8	0023.2	1				III
	0000	0723	CULG				0023.0	0701.5	1				IIIN
			CULG				0047.0	0659.0	2				IIIN
			PALE				0047.1	0048.3	2				III
			LEAR				0047.2	0048.7	1				III
			PALE				0100.8	0101.4	2				V
			LEAR				0100.9	0101.5	1				III
			CULG				0101.0	0101.5	3	0101.0	0101.5	2	IIIG
			LEAR				0110.8	0111.1	1				III
			CULG	0122.5	0123.0	1	0122.5	0123.0	3	0122.5	0123.0	2	IIIG
			LEAR				0122.5	0123.5	2				III
			PALE				0122.6	0122.9	3				III
			LEAR				0249.9	0251.0	1				III
			LEAR				0317.8	0318.2	1				III
			LEAR				0329.9	0330.3	1				III
			LEAR				0337.8	0338.1	1				III
			LEAR				0421.6	0421.9	1				III
			LEAR				0435.4	0435.7	1				III
			CULG	0545.5	0547.0	-1							IS
	0549	1347	WEIS				0639.6	0639.7	1				IIIB
			LEAR				0641.2	0641.9	1				III
			WEIS				0641.2	0641.6	1				IIIG
			LEAR				0656.2	0659.0	1				III
			WEIS				0656.2	0656.4	3				IIIB
			CULG	0710.5	0711.0	1							I
			WEIS				0758.7	0758.9	2				IIIB
			WEIS				1117.2	1117.3	1				IIIB
			WEIS				1145.7	1145.9	2				IIIG
			WEIS				1151.1	1151.3	2				IIIG
			WEIS	1305.7	1306.4	1							DCIM
			WEIS				1326.7	1326.8	2				IIIG
	1315	2250	HARV				1327.0		1				IIIB
			HARV				1345.0		1				IIIBW
			HARV	1411.0	2250.0	1							INW
			HARV				1438.0		1				IIIBW
			HARV				1446.0	1447.0	3	1446.0	1447.0	2	IIIG
			SGMR				1446.4	1446.6	1				V
			HARV				1458.0	1459.0	2	1458.0	1459.0	1	IIIG
			HARV				1515.0	1517.0	3	1515.0	1517.0	2	IIIGG
	1502	1638	WEIS				1515.3	1517.2	2				IIIG
			SGMR				1515.4	1517.2	1				V
			HARV				1606.0	1607.0	2	1606.0	1607.0	2	IIIG
			WEIS				1607.5	1606.8	2				IIIG
			HARV				1620.0		3	1618.0	1620.0	2	IIIGG
			WEIS				1620.2	1620.6	3				IIIG
			HARV				1646.0	2223.0	1				IN
			HARV				1725.0	1726.0	2	1725.0	1726.0	2	IIIG
			HARV				1735.0		2	1735.0		1	IIIG
			HARV				1753.0		1	1753.0		1	IIIGW

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26			HARV				1823.0		2	1823.0		1	IIIG
			HARV				1843.0		2	1843.0		2	IIIG
			HARV				1931.0	1937.0	1	1931.0	1937.0	1	IIIGG
			HARV				2011.0	2014.0	2	2011.0	2014.0	2	IIIGG
			PALE				2011.2	2014.3	2				III
			HARV				2028.0	2029.0	2	2028.0	2029.0	1	IIIG
	2025	2400	CULG				2028.5	2029.0	1				IIIG
			HARV				2040.0	2042.0	2				IIIG
			HARV	2055.0		2							IIIG
			CULG	2104.0	2400.0	1							IN
			CULG	2114.5	2115.0	2	2114.5	2115.0	3				IIIG,U
			PALE				2114.8	2115.3	2				V
			HARV				2115.0		3	2115.0		2	IIIGG
			CULG				2203.5		1				IIIB
			HARV	2249.0		1	2249.0		2				IIIG
			PALE				2249.2	2249.3	1				III
			CULG				2249.5		1				IIIB
27	0000	0723	CULG	0000.0	0528.5	1							IN
			PALE				0129.9	0130.6	2				V
			LEAR				0130.1	0130.5	2				III
			LEAR				0140.5	0142.9	1				III
			CULG	0142.0	0143.0	2	0140.5	0143.0	2				IIIG,V
			PALE				0142.0	0142.7	2				III
			LEAR				0205.8	0209.8	1				III
			PALE				0236.8	0237.0	2				III
			CULG	0237.0		1	0237.0		3				IIIB
			CULG	0239.0	0239.5	1	0235.5	0240.5	1				IIIN
			LEAR				0254.0	0254.4	1				III
			LEAR				0304.8	0305.4	1				III
			CULG	0337.0	0338.0	2							DCIM
			LEAR				0341.5	0341.2	1				III
			CULG				0441.0	0611.0	1				IIIN
			CULG	0656.5	0657.0	2							DCIM
			LEAR				0728.9	0729.1	1				III
			LEAR				0758.5	0759.4	1				III
	0550	1637	WEIS				0758.6	0758.8	1				IIIG
			WEIS				1015.7	1015.8	1				IIIB
			HARV				1436.0	1437.0	1				IIIB
			HARV	1455.0	2305.0	1							INW
			HARV	1614.0	1618.0	3	1614.0	1616.0	2	1614.0	1616.0	2	IIIGG
			WEIS				1614.4	1616.7	1				IIIG
			HARV	1624.0		1	1624.0		2				IIIB
			HARV				1626.0	1735.0	1				IN
			HARV				1736.0	1820.0	2				IC
			HARV				1820.0	1935.0	3				I
			HARV	1845.0	1846.0	1							IIIG
			HARV				1858.0	1900.0	2	1858.0	1900.0	2	IIIGG
			HARV	1928.0		2							IIIG
			HARV				1936.0	2228.0	1				IN
			HARV				2039.0	2041.0	2	2039.0	2040.0	1	IIIGG
	2024	2400	CULG	2039.5	2040.5	1	2039.5	2041.5	2				IIIGG
			CULG	2106.5	2217.5	1							IIIN
			HARV	2107.0		2							IIIG
			HARV	2146.0	2147.0	1							IIIGG
			CULG	2155.5	2323.5	1							IS
			HARV				2204.0	2205.0	2	2204.0	2205.0	1	IIIG
			PALE				2204.3	2204.6	2				III
			CULG				2204.5	2205.0	3	2204.5	2205.0	2	IIIG
			CULG				2210.0	2257.5					IIIS,W
			CULG				2214.5	2250.5	1				IIIN
			HARV	2217.0		2	2217.0		2				IIIG
			CULG				2225.0	2323.5	1				IS
			HARV				2228.0	2305.0	2				I
			HARV				2229.0	2257.0	2				IIIN
28			LEAR				0045.8	0047.4	1				III
	0000	0722	CULG				0047.0	0047.5	2				IIIG
			CULG	0048.0	0722.5	1	0057.0	0722.5	1				IS,C,DC
			CULG				0116.0	0301.0					IIIS,W
			LEAR				0117.5	0220.0	1				B

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

SEPTEMBER 1982

Day	Observation Start (UT)	Observation End (UT)	Sta	Decimetric Band Start (UT)	Decimetric Band End (UT)	Decimetric Band Int (1-3)	Metric Band Start (UT)	Metric Band End (UT)	Metric Band Int (1-3)	Dekametric Band Start (UT)	Dekametric Band End (UT)	Dekametric Band Int (1-3)	Spectral Type
28			CULG				0207.0		2	0207.0		1	IIIB
			CULG				0217.0	0703.0	1				IIIN
			CULG	0404.0		3	0404.0	0404.5	3				IIIG
			CULG				0600.5	0703.5	2				IIIN
			LEAR				0600.5	0601.2	1				III
			LEAR				0619.5	0624.3	1				III
			CULG				0623.0	0722.5					IIIS,W
			LEAR				0637.7	0637.8	1				III
	0552	1327	WEIS				0656.0	0658.9	3				IIIG
			LEAR				0656.9	0703.3	1				III
			CULG				0657.0	0657.5	3				IIIG
			WEIS				0702.3	0703.3	1				IIIG
			WEIS				0711.0	1552.0	1				IN
			LEAR				0843.6	0844.6	2				III
			WEIS				1050.4	1050.7	2				IIIB
			WEIS				1122.7	1122.9	1				IIIG
			WEIS				1125.7	1126.1	1				IIIG
			WEIS				1127.6	1128.5	1				IIIG
			WEIS				1141.4	1143.8	1				IIIG
			WEIS				1159.4	1159.7	3				IIIG
			WEIS				1205.6	1205.7	1				IIIB
			WEIS				1241.8	1244.1	3				IIIGG
			WEIS				1247.8	1250.7	3				IIIGG
			WEIS				1325.5	1325.6	1				IIIB
	1331	1635	WEIS				1333.1	1333.2	2				IIIB
	1315	2250	HARV	1410.0	2239.0	1	1316.0	2141.0	1				INW
			HARV				1730.0		1	1730.0		1	IIIB
			HARV				1934.0	1938.0	2	1938.0		1	IIIGG
			HARV				2009.0		1				IIIB
	2023	2400	CULG	2023.0	2052.0								IS,W
			CULG	2100.0	2104.0	1							IIIN
			HARV	2100.0	2104.0	2							IIIGG
			HARV				2132.0		1				IIIBW
			CULG	2257.0	2257.5	2							I
29	0000	0722	CULG	0016.0	0016.5	1							I
			CULG	0032.5	0722.5	1							IS
			CULG				0049.0	0049.5	1	0049.5		1	IIIG,U
			CULG	0049.0	0049.5	1							DCIM
			PALE				0049.2	0049.3	2				III
			CULG				0207.5		1				IIIB
			LEAR				0207.6	0207.8	1				III
			CULG				0336.0	0336.5	1				IIIG
			LEAR				0336.3	0336.5	1				III
			CULG				0349.0	0435.0	1				IS
			CULG				0623.0	0722.5	1				IS,C
	0552	0804	WEIS				0730.0	1630.0	3				IS
			LEAR				0808.0	0818.6	1				CONT
	0846	1633	WEIS				0903.3	0903.5	1				IIIB
			WEIS				1014.6	1014.9	2				IIIG
			WEIS				1056.1	1056.2	1				IIIB
			WEIS				1057.8	1058.2	1				IIIB
			WEIS				1154.2	1154.5	1				IIIG
			WEIS				1204.7	1205.2	1				IIIG
	1315	2300	HARV				1317.0	1400.0	2				I
			WEIS				1354.2	1355.0	1				IIIG
			HARV				1400.0	1533.0	1				IN
			HARV	1438.0	1522.0	1							INW
			HARV				1439.0		2				IIIG
			HARV	1522.0	1608.0	2							I
			WEIS				1522.8	1526.3	3				IIIG
			HARV	1523.0	1615.0	2							IV
			SGMR				1523.2	1525.4	1				V
			HARV	1525.0		2	1523.0	1527.0	3	1523.0	1525.0	2	IIIGG,V
			HARV				1526.0	1529.0	2				UNCL
			HARV				1531.0	1554.0	2	1541.0	1554.0	1	IIIGG
			WEIS				1532.6	1532.8	1				IIIG
			HARV				1533.0	1730.0	3				IC
			WEIS				1540.3	1540.6	1				IIIB
			WEIS				1551.4	1551.7	1				IIIG
			WEIS				1553.7	1553.8	1				IIIB

SEPTEMBER 1982

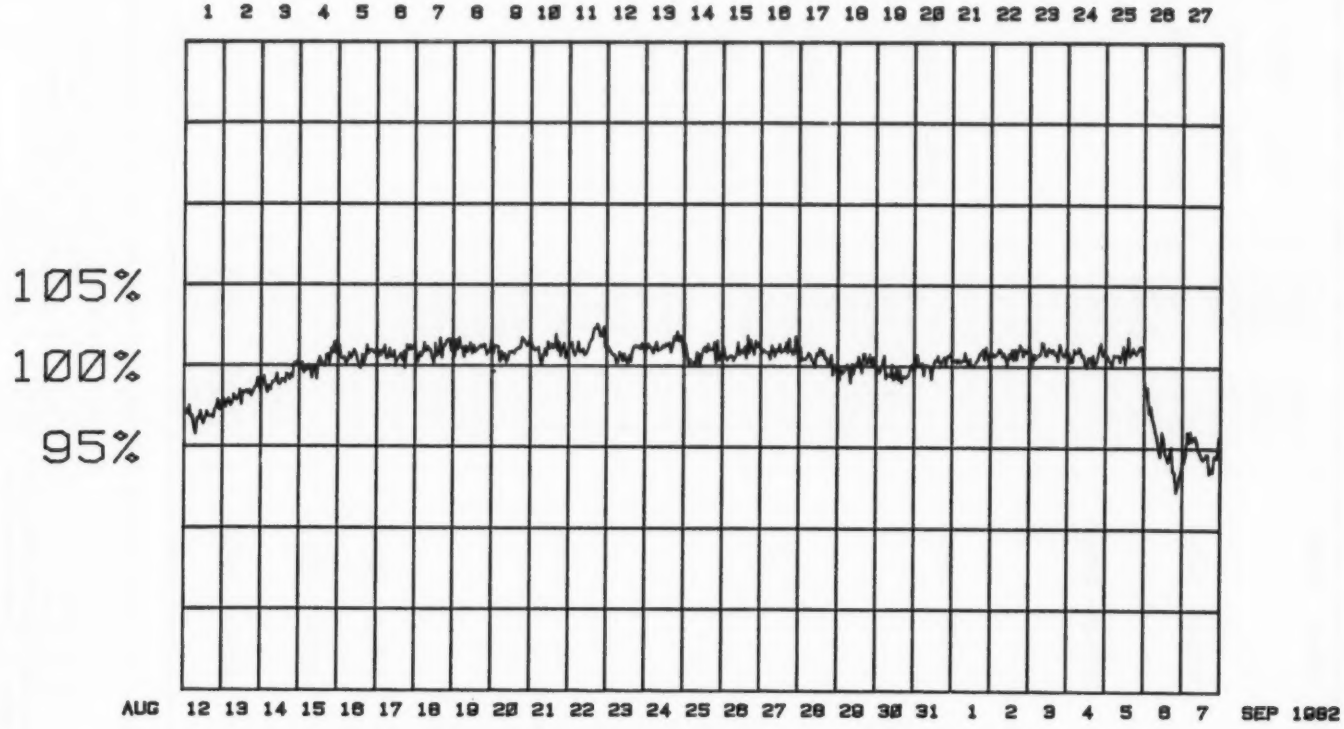
Day	Observation Start (UT)	Observation End (UT)	Sta	Decimetric Band Start (UT)	Decimetric Band End (UT)	Decimetric Band Int (1-3)	Metric Band Start (UT)	Metric Band End (UT)	Metric Band Int (1-3)	Dekametric Band Start (UT)	Dekametric Band End (UT)	Dekametric Band Int (1-3)	Spectral Type
29			HARV	1608.0	2300.0	1							INW
			HARV				1730.0	2234.0	1				IN
			HARV				1800.0	1803.0	3	1800.0	1803.0	2	IIIGG
			PALE				1801.0	1802.4	1				III
			HARV				1947.0	1949.0	2	1949.0	1949.0	2	IIIGG
			PALE				1947.2	1948.6	2				III
	2023	2400	CULG	2023.0	2049.0								IS,W
			HARV				2047.0	2050.0	2	2047.0	2050.0	1	IIIGG
			PALE				2047.4	2049.2	1				III
			CULG				2047.5	2049.5	2				IIIGG
			CULG				2051.5	2308.5	1				IIIN
			CULG	2055.0	2358.5	1	2150.5	2358.0	1				IN
			HARV				2234.0	2300.0	2				I
30	0000	0722	CULG				0008.5	0016.5	1				IN
			LEAR				0031.8	0032.0	1				III
			CULG				0032.0		1				IIIB
			LEAR				0116.8	0116.9	1				III
			CULG	0136.0	0542.0	1						IV	
			CULG							0136.5	0152.0	1	SWF
			CULG				0137.0	0137.5	3	0137.0	0137.5	2	IIIB,V
			CULG				0137.0	0142.0	3			II	
			LEAR				0137.0	0147.0	3				III
			PALE				0137.0	0137.3	2				III
			PALE				0138.9	0140.1	3			II	
			CULG				0139.0	0140.0	3	0139.5	0140.0	1	IIIGG
			CULG				0142.0	0147.0	2	0142.0	0143.5	1	IIIN
			CULG				0142.0	0345.0	3			IV	
			LEAR				0147.0	0932.0	1			IV	
			CULG				0150.0	0155.0	2			II	
			CULG				0210.5		3				IIIB
			PALE				0210.8	0353.0	2				B
			CULG				0342.5	0457.5	2				IIIN
			CULG				0345.0	0613.5	2			IV	
			CULG				0355.0	0722.0					IIIS,W
			CULG				0613.5	0722.0	1			IV	
	0555	1224	WEIS				0802.0	0922.0	2				IN
			LEAR				0823.6	0823.9	1				III
			LEAR				0837.7	0837.9	1				III
			WEIS				0854.2	0854.3	1				IIIB
			WEIS				0866.2	0856.4	1				IIIG
			WEIS				0901.8	0902.0	2				IIIG
			WEIS				0956.1	0956.3	1				IIIG
	1229	1621	WEIS				1242.7	1246.3	1				IIIG
			WEIS				1311.2	1313.3	1				IIIG
	1315	2255	HARV				1319.0	2255.0	1				IN
			HARV	1409.0	1605.0	1							IN
			HARV				1514.0		1				IIIB
			WEIS				1514.3	1514.4	1				IIIB
			HARV	1803.0	2255.0	1							IN
			HARV				1832.0	1902.0	1	1832.0	1902.0	1	IIINW
			HARV				2157.0	2158.0	2				IIIG
	2022	2400	CULG				2158.0		3				IIIB,U
			CULG	2214.5	2400.0	1	2324.5	2400.0	1				IS
			CULG				2336.0	2357.5	1				IIIN
			CULG				2336.0	2400.0					IIIS,W

The symbols used under the column heading SPECTRAL TYPE have the following definitions:

B = Single burst
G = Small group (< 10) of bursts
GG = Large group (> 10) of burst
C = Underlying continuum (particularly with Type I)
S = Storm in the sense of intermittent but apparently connected activity
N = Intermittent activity in this period
U = U-shaped burst of Type III

RS = Reverse slope burst
DP = Drifting pairs
DC = Drifting Chains
H = Herringbone
W = Weak
P = Pulsations
CONT = Continuum
UNCLF = Unclassified activity
DCIM = Fast drift

THULE NEUTRON MONITOR

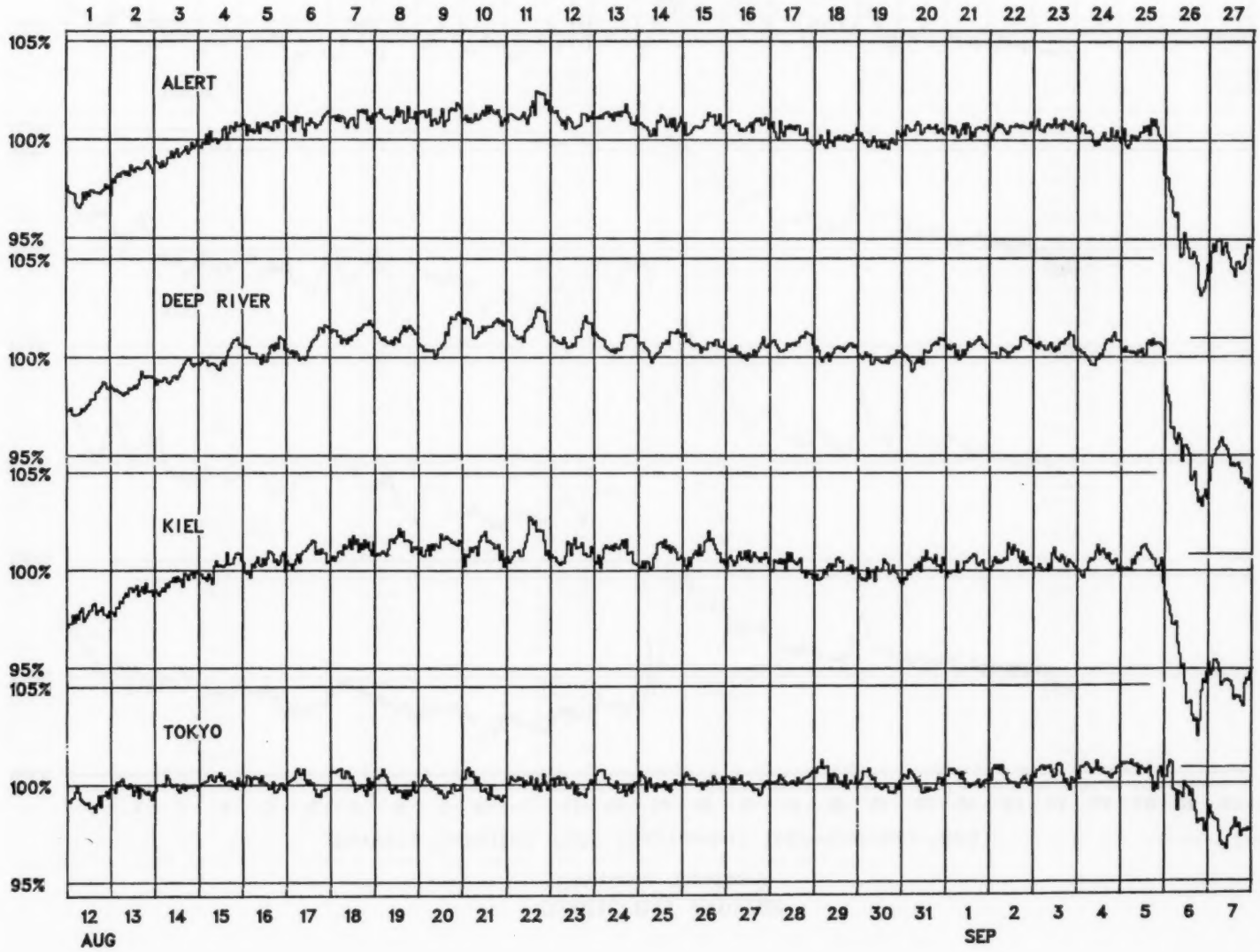


BARTELS ROTATION 2037

COSMIC RAY INDICES

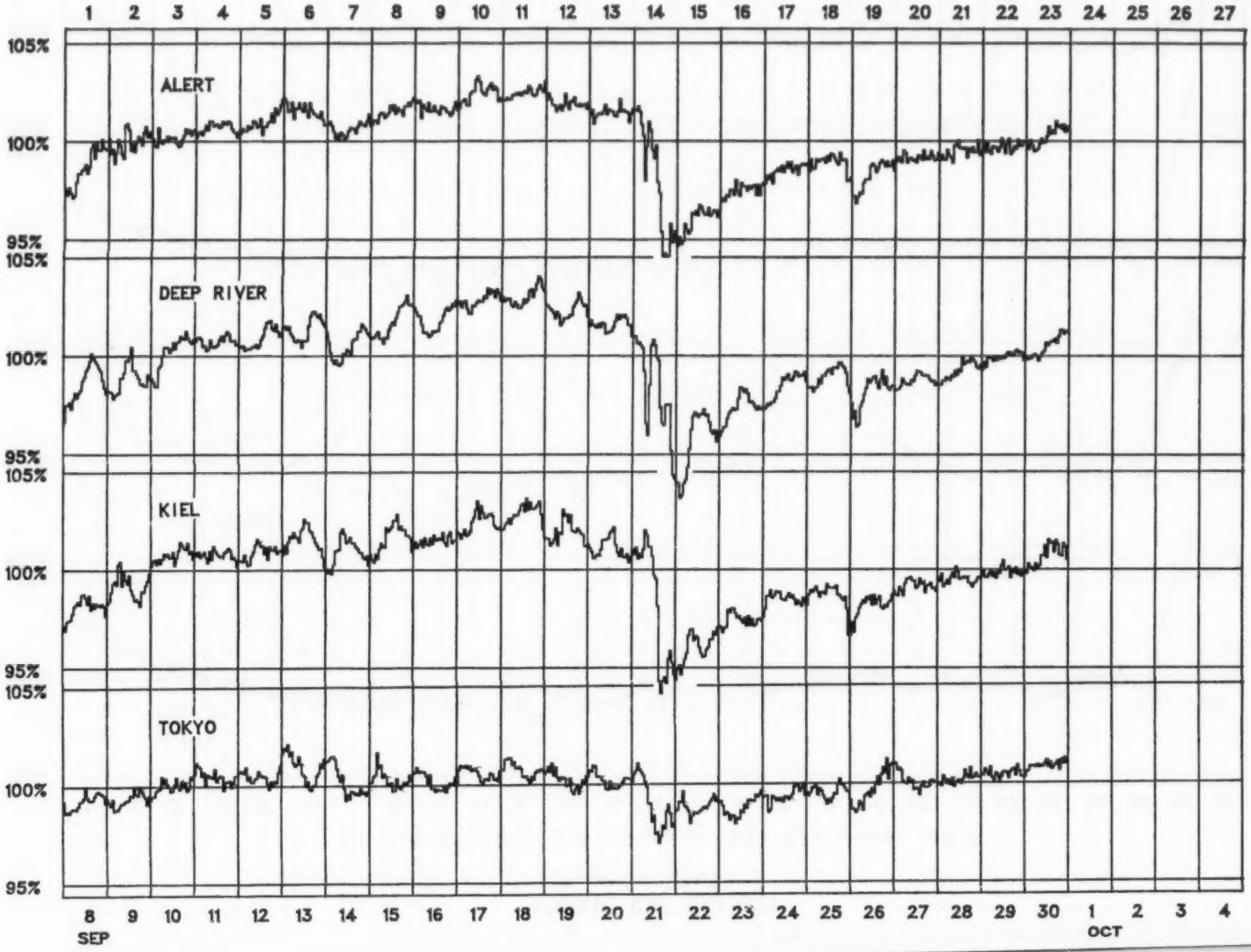
COSMIC RAY INDICES
(Neutron Monitor)

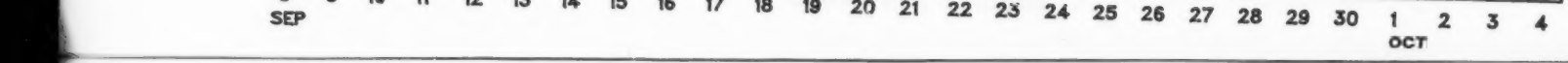
Bartels Rotation 2037 (August 1982–September 1982)



COSMIC RAY INDICES
(Neutron Monitor)

Bartels Rotation 2038 (September 1982–October 1982)





COSMIC RAY INDICES
(Neutron Monitor)
September 1982

Day	THULE Average (cts/h)/100	ALERT Average (cts/h)/100	DEEP RIVER Average (cts/h)/300	KIEL Average (cts/h)/100	CLIMAX Average (cts/h)/100	TOKYO Average (cts/h)/100	HUANCAYO Average (cts/h)/100)
1	3863	6273.3	5927.7	5359.0		3423.6	
2	3877	6278.3	5924.2	5379.7		3426.4	
3	3879	6286.1	5935.8	5365.4		3432.5	
4	3872	6254.5	5918.0	5371.5		3438.0	
5	3874	6254.8	5922.4	5373.5		3438.0	
6	3660	5912.1	5599.2	5079.5		3392.2	
7	3646	5876.7	5579.6	5044.3		3335.0	
8	3699	5973.1	5646.7	5096.5		3344.2	
9	3737	6050.0	5660.3	5152.5		3347.6	
10	3765	6062.6	5739.3	5236.3		3369.7	
11	3781	6093.2	5769.5	5237.2		3385.8	
12	3780	6111.3	5779.0	5243.1		3385.0	
13	3792	6144.1	5806.3	5277.7		3401.0	
14	3768	6090.1	5757.3	5245.5		3376.4	
15	3792	6143.5	5825.3	5280.6		3380.0	
16	3804	6152.1	5832.6	5273.7		3375.9	
17	3832	6199.1	5889.0	5321.8		3389.0	
18	3854	6199.4	5899.5	5345.8		3395.2	
19	3804	6166.7	5859.3	5296.2		3377.8	
20	3784	6139.3	5818.5	5253.5		3376.7	
21	3654	5935.2	5636.9	5115.4		3335.2	
22	3582	5809.5	5479.5	4988.1		3330.4	
23	3631	5900.5	5576.2	5062.9		3328.9	
24	3665	5963.5	5639.2	5119.2		3348.0	
25	3687	5985.1	5666.6	5129.9		3354.8	
26	3668	5946.5	5623.2	5098.8		3358.7	
27	3697	6002.1	5655.9	5152.6		3373.2	
28	3706	6020.0	5685.1	5171.7		3375.6	
29	3710	6035.9	5724.4	5189.5		3385.0	
30	3741	6067.2	5756.5	5232.0		3398.5	
Mean	3753	6077.6	5751.1	5216.5		3379.3	

Data not available at time of publication

Data not available at time of publication

For less than 24-hour coverage, parentheses enclose the number of hours for which data are available. For Climax and Huancayo, parentheses enclose the number of section hours whenever the sum of both sections falls below 40 hours.

GEOMAGNETIC ACTIVITY INDICES

SEPTEMBER 1982

Day	Three-Hourly Indices (Kp) 1 2 3 4	5 6 7 8	Sum	Ap	Cp	Three-Hourly Indices (Km) 1 2 3 4	5 6 7 8	Am	aa (Provisional) N	S	M	
1	Q2A 3- 2 2- 3-	3- 3- 2 2-	18	9	0.5			16	21	18	17	22
2	Q8A 3- 2+ 3- 2+	3- 3- 3 3	21+	12	0.7			25	24	22	24	22
3	3- 4- 4 5-	4+ 3- 3 3-	28-	21	1.1			31	32	27	30	29
4	3 4- 4 5-	5 4+ 4 5	34-	32	1.3			49	54	42	39	57
5	4- 4+ 5 4	5- 4 2+ 7-	35-	39	1.4			55	42	50	38	54
6	D1 8 8+ 8+ 8+	9- 7+ 7 6+	62+	199	2.1			286	214	195	201	209
7	D3 7 6+ 5 7-	6- 6 7+ 4-	48-	88	1.8			107	97	71	79	89
8	Q7A 2- 3 2+ 3	2- 2+ 3 4-	21-	12	0.7			21	21	17	16	23
9	7- 4+ 5 5+	4+ 5 5+ 3+	39+	50	1.6			64	76	57	79	55
10	Q3A 3+ 3 1+ 1+	1+ 3+ 2+ 2	18	10	0.6			16	22	12	15	20
11	3- 3- 2 3	3+ 3+ 2+ 3	22+	13	0.8			23	26	20	21	26
12	3+ 3+ 2 2	1+ 2- 4- 4	21+	14	0.8			21	28	19	24	24
13	4+ 3+ 2- 3+	3= 3 1+ 3	23-	15	0.9			23	27	20	26	22
14	2- 4 2 1+	2+ 3- 4+ 3-	21	14	0.8			25	26	22	20	29
15	Q9A 1 3+ 3 2	3- 3- 3- 3+	21-	12	0.7			20	28	16	20	25
16	Q6A 3- 2 2+ 2+	3 3- 3 3	21	12	0.7			22	22	17	15	25
17	Q5A 2- 2 3 4	2- 3- 2 1+	18+	11	0.6			20	18	23	28	13
18	4+ 4+ 3+ 3	4 4- 5+ 5-	33-	30	1.3			44	54	41	36	58
19	3+ 4 3+ 4	4+ 5- 4+ 4	32	28	1.2			42	40	35	29	46
20	3- 3+ 5- 4	4 4- 2+ 5-	29+	24	1.2			41	31	41	39	33
21	D5 5 7- 6 6-	6- 5- 5- 7+	46-	76	1.8			96	88	83	79	92
22	D2 8- 8+ 8 8-	7- 6 4+ 5+	54	135	1.9			184	171	137	228	81
23	4 5 4+ 4	3 3+ 4- 3+	31-	26	1.2			40	42	39	43	38
24	3+ 4 5- 4-	4 4- 2 3-	28	22	1.1			35	36	31	39	28
25	Q0A 2 2 1+ 2	2+ 4- 4+ 3	21-	13	0.7			22	29	16	10	36
26	D4 2+ 4- 4+ 6-	7+ 7+ 7+ 6	44	84	1.8			115	79	78	38	120
27	7- 5- 4+ 4	4- 5+ 4 4-	36+	42	1.5			60	59	29	43	45
28	4+ 4 2+ 2	1+ 2- 2- 3+	21-	14	0.8			22	25	16	24	18
29	Q1A 2 2+ 3 3-	2+ 1+ 2+ 1	17	9	0.5			17	16	13	15	14
30	Q4A 1- 1+ 3- 3-	3+ 3- 3 3+	20-	12	0.7			24	19	19	13	26
Mean				36	1.09			52.2	48.9	41.0		45.1

Day	Three-Hourly Indices (Kn) 1 2 3 4	5 6 7 8	An	Three-Hourly Indices (Ks) 1 2 3 4	5 6 7 8	As	Sa	Rl	Ra	Rs	IMF
1			18			14	184.3*	115	121	137	A -
2			24			26	168.7*	124	136	120	A -
3			35			27	171.0*	146	161	123	A -
4			50			47	188.1*	176	166	141	A -
5			57			53	179.4	160	159	132	A -
6			289			283	172.1	141	144	124	A -
7			103			111	176.8	117	119	129	A -
8			23			18	178.5	115	116	131	TA -
9			66			63	179.2	100	91	132	AT -
10			18			14	165.6	81	83	117	T -
11			23			23	158.3	86	85	109	T -
12			23			19	152.5*	78	80	103	T -
13			25			22	151.3	81	89	101	T -
14			24			26	147.4	104	104	97	T -
15			22			18	149.0*	129	130	99	T -
16			24			19	147.3	133	130	97	T -
17			20			20	147.0*	127	126	97	T -
18			41			48	143.2	107	111	93	T -
19			43			42	142.6*	117	106	92	T -
20			40			42	146.9	104	104	97	T -
21			104			89	145.4	102	92	95	TA -
22			187			180	146.2	95	96	96	A -
23			38			43	152.6*	97	100	103	AT -
24			36			35	165.4*	109	112	117	T -
25			24			19	170.3	118	115	122	T -
26			122			108	187.3	138	130	140	A -
27			61			59	191.4	133	132	145	A -
28			24			19	196.9	140	138	151	T -
29			19			16	204.6	144	149	159	TA -
30			24			24	202.4	160	155	157	A -
Mean			53.6			50.9	167.1	119.2	119.3	118.5	

The Geophysikalisches Institut, University of Goettingen, prepares the quiet (Q) and disturbed (D) days, geomagnetic planetary 3-hour-range indices (Kp), magnetic character figures (Cp) and average amplitude (Ap). The 10 most quiet days (Q1-Q0(10)) and the five most disturbed days (D1-D5) are ordered from most quiet and from most disturbed, respectively. A or K means "not really quiet" (A implies Ap>6 and K implies Ap<6 with either one Kp>30 or two Kp values >3-). An asterisk means "not really disturbed" (Ap<20).

Geomagnetic 3-hour indices Km, Kn, Ks and daily mean values Am, An, As and indices aa are prepared by M. Menvielle of the Institut de Physique du Globe, Paris, France. For aa indices, daily north (N) and south (S) values and half-daily antipodal mean (M) values are given. C indicates really quiet 24- and 48-hour intervals centered on 1200 UT; K indicates similar periods with some slightly disturbed 3-hour intervals.

NOTE: All aa indices are provisional from 1 January 1981 until further notice, because of the change in the Southern Hemisphere observatory.

Day	1981 Oct	Nov	Dec	1982 Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	9	7	6	9	41	68	20	22	20	18	12	9
2	22	5	9	9	60	107	42	30	18	10	55	12
3	36	8	8	20	35	13	48	45	9	6	26	21
4	17	6	10	12	49	12	22	19	7	2	15	32
5	7	11	9	4	37	16	21	14	6	4	18	39
6	6	9	4	10	39	3	18	6	14	15	25	199
7	32	19	3	12	26	3	5	4	14	21	107	88
8	25	27	15	9	18	11	12	5	9	15	6	12
9	21	4	10	4	15	20	10	8	16	10	23	50
10	27	13	9	4	35	16	61	5	51	10	27	10
11	46	31	6	5	45	10	47	9	32	36	28	13
12	12	39	23	2	41	8	15	6	59	48	22	14
13	17	5	12	4	54	13	11	6	62	144	10	15
14	73	27	6	3	42	11	6	8	24	153	7	14
15	20	20	6	12	18	7	10	20	26	36	3	12
16	8	17	4	17	6	4	11	10	10	50	6	12
17	18	32	7	10	30	14	19	12	6	24	16	11
18	6	26	14	13	34	20	12	20	7	24	16	30
19	23	14	10	3	36	10	8	12	24	28	10	28
20	67	13	6	6	26	12	20	8	18	24	12	24
21	33	15	6	14	21	23	32	8	9	11	15	76
22	72	11	3	27	51	38	18	4	20	16	24	135
23	27	20	6	22	29	8	9	2	20	12	17	26
24	18	9	10	21	24	12	15	4	21	50	18	22
25	18	27	8	9	42	20	52	8	17	22	20	13
26	10	9	6	7	43	11	7	24	16	27	20	84
27	10	4	6	13	12	9	24	54	32	27	11	42
28	19	6	12	17	10	6	21	56	27	21	12	14
29	12	4	32	11		13	31	35	19	22	38	9
30	12	1	30	27		15	30	35	39	23	28	12
31	4		18	34		20		31		25	16	
Mean	23	15	10	12	33	18	22	17	22	30	21	36

GEOMAGNETIC ACTIVITY INDICES

SEPTEMBER 1982

Sta	Geomag Lat	Commencement Day	Time (UT)	Type	SC Amplitudes D (Min)	H (Gamma)	Z (Gamma)	Maximum 3-Hour K Index Day(3-Hour Periods)	K	Ranges D (Min)	H (Gamma)	Z (Gamma)	End Day	Hour (UT)
HYB	07.6N	02	1400	..	..	..	..	03(4)	4	6	94	31	03	22
COL	64.6N	04	0031	SC*	9	- 47	..	06(4)	9	574	3560	2270	07	21
HYB	07.6N	04	0200	..	..	..	..	04(5)	5	8	170	40	05	18
HUA	00.6S	04	0030	SC		3	2	04(6)	6	9	169	44	05	21
SIT	60.0N	05	2248	SC*	27 *	113 *	- 8	06(5)	8				07	23
WIT	54.2N	05	2250	SC	- 8	130	- 2	06(2,5)	8	90	675	605	07	20
FRD	49.6N	05	2249	SC*	7	108	- 17	06(3,4)	8	84	659	507	00	00
HON	21.1N	05	2249	SC	01	34	16	06(3,4)	7	12	331	61	08	01
JAI	17.3N	05	2248	SC	- 2.9	53	- 15			13	433	49	08	04
SHL	14.6N	05	2248	SC	- 1.3	47	8			13		74	08	04
UJJ	13.5N	05	2248	SC	- 1.7	60	- 16				434	69	08	04
ABG	09.5N	05	2248	SC	- 2.0	4.8	- 17	06(1,5,6)	7	12	434	79	08	04
HYB	07.6N	05	2250	SC	- 1.1	51	- 3	06(4,5)	9	11	451	51	08	13
GUA	04.0N	05	2249	SC*		40	- 11	06(5)	8	10	480	50	07	21
ANN	01.5N	05	2248	SC	- 2.5	63	34			11	460	140	08	04
HUA	00.6S	05	2248	SC	3	86	14	06(5,6)	8	32	609	101	07	22
TRD	01.1S	05	2248	SC	- 0.3	44	60			8			08	04
PMG	18.6S	05	2249	SC	- 2.2	48	39	06(5)	8	13	430	140	08	00
HER	33.7S	05	2249	SC	6	76	47	06(2,3,4,5,6)	7	72	359	281	07	24
GNA	43.2S	05	2250	SC*	8.6*	17	32 *	06(4,5)	8	90	350		08	00
KGL	56.5S	05	2250	SC	10	27	11	06(1,2,4,5)	9	270	2210	1313	08	01
WIT	54.2N	09	0106	SC	- 6	130	0	09(1,7)	6	38	215	40	09	22
HON	21.1N	09	0106	SC		73	21	09(1)	6	70	134	45	10	05
JAI	17.3N	09	0104	..	..	..	..			11	104	64	09	22
SHL	14.6N	09	0104	..	..	..	..			10	134	60	09	22
UJJ	13.5N	09	0104	..	..	..	..			9	120	65	09	22
ABG	09.5N	09	0104	..	..	..	..	09(1)	6	10	115	74	09	22
HYB	07.6N	09	0105	SC	- 0.4	73	- 5	09(1)	6	9	123	41	10	01
GUA	04.0N	09	0036	SC*		- 13	- 02						10	05
GUA	04.0N	09	0105	SC*		21	- 08	09(1)	7	10	250	10	10	05
ANN	01.5N	09	0104	..	..	..	..			10	182	118	09	22
HUA	00.6S	09	0106	SC	2	116	20	09(1,6)	6	7	358	62	09	24
TRD	01.1S	09	0104	..	..	..	..			5	210	163	09	22
PMG	18.6S	09	0105	SC	0.5	122	111	09(1)	6	7	190	170	10	00
HER	33.7S	09	0105	SC	6	68	49	09(1,7)	5	22	102	75	09	22
KGL	56.5S	09	0106	SC				09(7)	7	27	299	126	10	05
GUA	04.0N	12	2240	..	..	..	..	13(1)	5	10	70	40	13	07
HYB	07.6N	17	0700	..	..	..	..	17(4) 18(5)	5	7	147	40	20	18
GUA	04.0N	18	1316	..	..	..	..	18(7)	5	10	110	30	19	19
HUA	00.6S	18	0044	..	..	..	..	18(5,6,7)	6	7	296	36	18	24
HUA	00.6S	19	0122	..	..	..	..	19(6)	6	8	326	54	19	23
COL	64.6N	20	0600	..	..	..	..	22(2,4)	8	648	2760	2310	23	18
SIT	60.0N	20	0600	..	..	..	..	22(2)	9				23	11
FRD	49.6N	20	0340	SC	2	83	- 16	22(2,3,4)	7	55	265	330	24	00
WIT	54.2N	21	0339	SC*	- 11 *	20 *	0	22(1,3)	8	75	460	245	22	20
HON	21.1N	21	0339	SC		42	21	22(2,3,4)	6	08	257	58	23	21
JAI	17.3N	21	0339	SC	- 0.9	34	- 9			11	365	49	23	21
SHL	14.6N	21	0339	SC	0.7	42	8			10	390	63	23	21
UJJ	13.5N	21	0339	SC	- 0.4	42	- 10			12	369	60	23	21
ABG	09.5N	21	0339	SC	- 0.8	35	- 10	21(8)22(1,2,4,5)	6	12	355	72	23	21
HYB	07.6N	21	0339	SC	- 0.5	45	- 7	22(4)	8	11	373	53	24	17
GUA	04.0N	21	0339	SC*		75	- 24	21(2)	6		170	50	21	21
GUA	04.0N	21	2127	SC	..	20	- 06	22(4)	7	10	350	70	22	18
ANN	01.5N	21	0339	SC									23	21
HUA	00.6S	21	0338	SC	2	82	16	21(6)	6	18	450	66	22	24
TRD	01.1S	21	0339	SC	- 0.2	106	105			8	461	332	23	21
PMG	18.6S	21	0339	SC*	1.4*	58	47	22(3,4)	7	11	370	160	23	00
HER	33.7S	21	0339	SC	9	28	28	22(3)	7	64	278	193	22	24
GNA	43.2S	21	0300	..	..	..	..	22(3,5)	7	42	310	400	24	16
KGL	56.5S	21	0339	SC	12	55	- 15	21(8) 22(1,2)	8	150	1258	519	23	09
GUA	04.0N	24	0249	..	..	..	..	24(2)	5	10	90	30	24	16

PRINCIPAL MAGNETIC STORMS

SEPTEMBER 1982

Sta	Geomag Lat	Commencement Time Day	(UT)	Type	SC Amplitudes D (Min)	H (Gamma)	Z (Gamma)	Maximum 3-Hour K Index Day(3-Hour Periods)	K	Ranges D (Min)	H (Gamma)	Z (Gamma)	End Day	Hour (UT)
SIT	60.0N	25	2030	SC*	7 *	- 21 *	- 7	26(5)	8				27	12
WIT	54.2N	25	1703	SC	- 1	10 *	0	26(6,7)	7	45	165	295	27	21
FRD	49.6N	25	0000	..	..	..	..	26(5) 27(1)	7	49	200	123	29	00
HON	21.1N	25	2030	SC		17	05	26(5,6,8)	5	05	131	55	27	02
JAI	17.3N	25	1700	..	..	..	..			11	297	55	27	09
SHL	14.6N	25	1700	..	..	..	..			8	303	58	27	09
UJJ	13.5N	25	1700	..	..	..	..			9	303	53	27	09
ABG	09.5N	25	1700	..	..	..	..	26(4,5,6,7)	6	12	329	48	27	09
HYB	07.6N	25	0900	..	..	..	..	26(6)	8	8	349	37	27	23
ANN	01.5N	25	1700	..	..	..	..						27	09
HUA	00.6S	25	1703	SC*	3	81	7	26(5,7)	7	10	548	62	27	09
TRD	01.1S	25	1700	..	..	..	..			6	419	160	27	09
COL	64.6N	26	0300	..	..	..	..	26(5,6)	8	534	2280	1420	27	20
GUA	04.0N	26	0827	..	..	..	..	26(5)	6	10	160	30	27	20
PMG	18.6S	26	0800	..	..	..	..	26(5,6)	6	10	170	100	28	00
HER	33.7S	26	1000	..	..	..	..	26(5,6,7)	6	47	286	267	27	03
GNA	43.2S	26	1000	..	..	..	..	26(5,6,7)	6	37	170	220	28	09
KGL	56.5S	26	1034	SC	4	46	- 11	26(4,5) 27(1)	8	244	1487	562	28	06

REPORTS WERE RECEIVED FROM THE FOLLOWING OBSERVATORIES:

ALIBAG ANNAMALAINAGAR COLLEGE FREDERICKSBURG GNANGARA GUAM HERMANUS HONOLULU
HUANCAYO HYDERABAD JAIPUR KERGUELEN PORT MORESBY SHILLONG SITKA TRIVANDRUM
UJJAIN WITTEVEEN

SEPTEMBER 1982

PRELIMINARY REPORT ON RAPID VARIATIONS

Sudden Commencements (ssc)

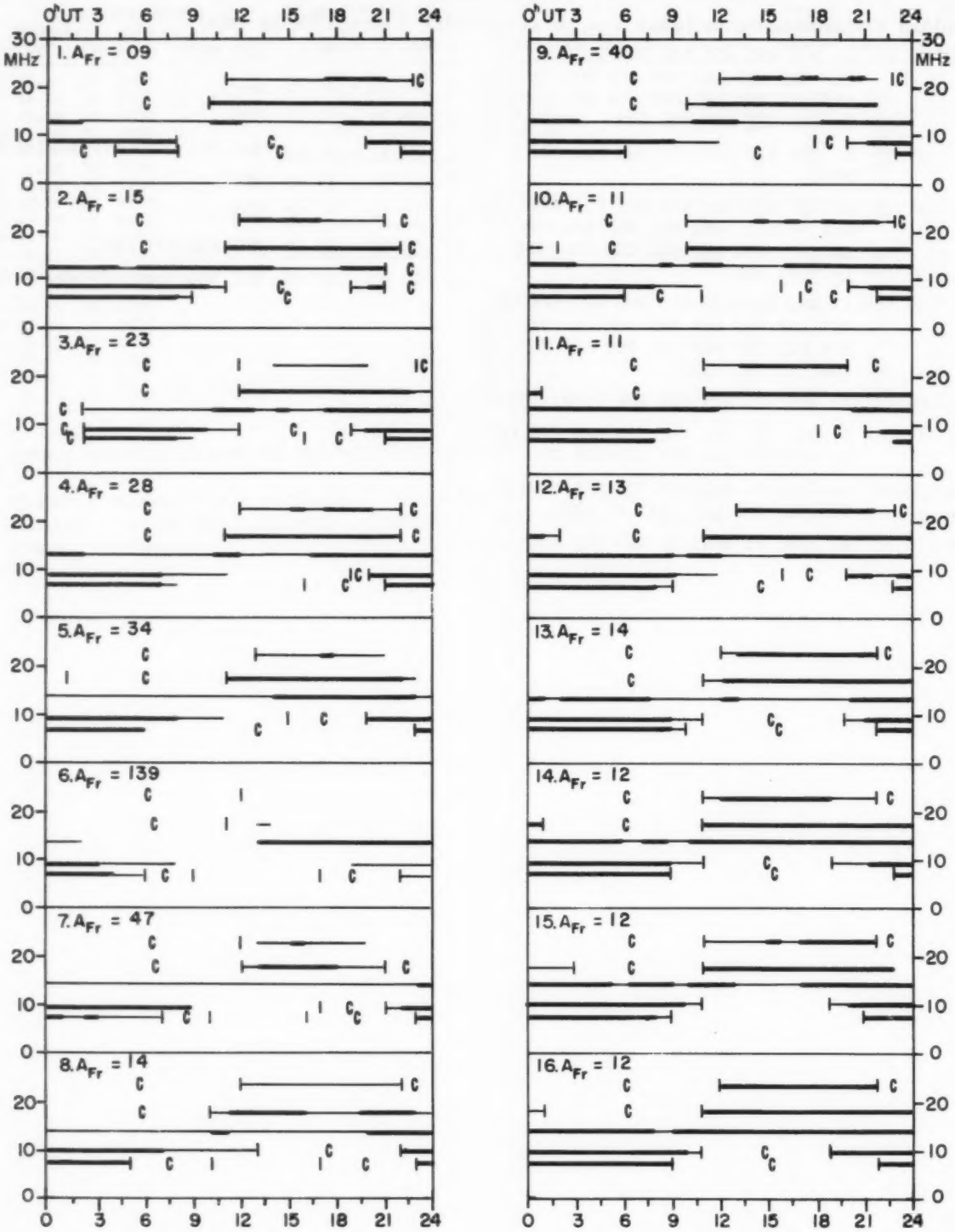
05	22	50	A: DOB WNG WIT NGK DOU BDV VIC CLF HRB MMB AQU EBR COI TOL FRD KAK HTY KNY LNP PMG HUA NPO CZT; B: HAD GNA AMS KGL DUM
06	07	53	A: WNG WIT CLF; B: DUM (si: B: MPO)
09	01	05	A: WIT NGK DOU CLF HRB COI PMG HUA MPO; B: WNG BDV TOL KAK KNY LNP; C: ESK MMB AMS CZT KGL DUM (si: A: EBR)
21	03	39	A: WNG DOU CLF HRB MMB AQU KAK HTY KNY LNP PMG HUA AMS DUM; B: WIT NGK HAD BDV EBR TOL FRD MPO CZT KGL (si: A: VIC)
24	09	45	B: WNG; C: NGK HUA AMS (sfe: TOL)
25	17	03	A: HUA; B: WNG VIC HRB MMB KAK KNY; C: WIT NGK HAD BDV CLF EBR TOL
25	20	30	A: COI; B: HAD EBR TOL HUA MPO; C: NGK CLF AMS DUM (si: A: WNG)
26	10	33	A: HRB; B: NGK; C: MPO CZT KGL

Solar Flare Effects (sfe)

1	07	37	-	07	51	LNP MPO
3	01	22	-	01	25	LNP
3	09	20	-	10	21	TOL
4	00	31	-	01	00	KAK HTY KNY LNP(ssc:C:HUA)
8	15	51	-	16	06	MPO
15	17	14	-	17	30	HUA
30	01	35	-	02	00	MMB KAK KNY LNP
30	12	03	-	12	26	NGK TOL (ssc: C: WNG BDV)

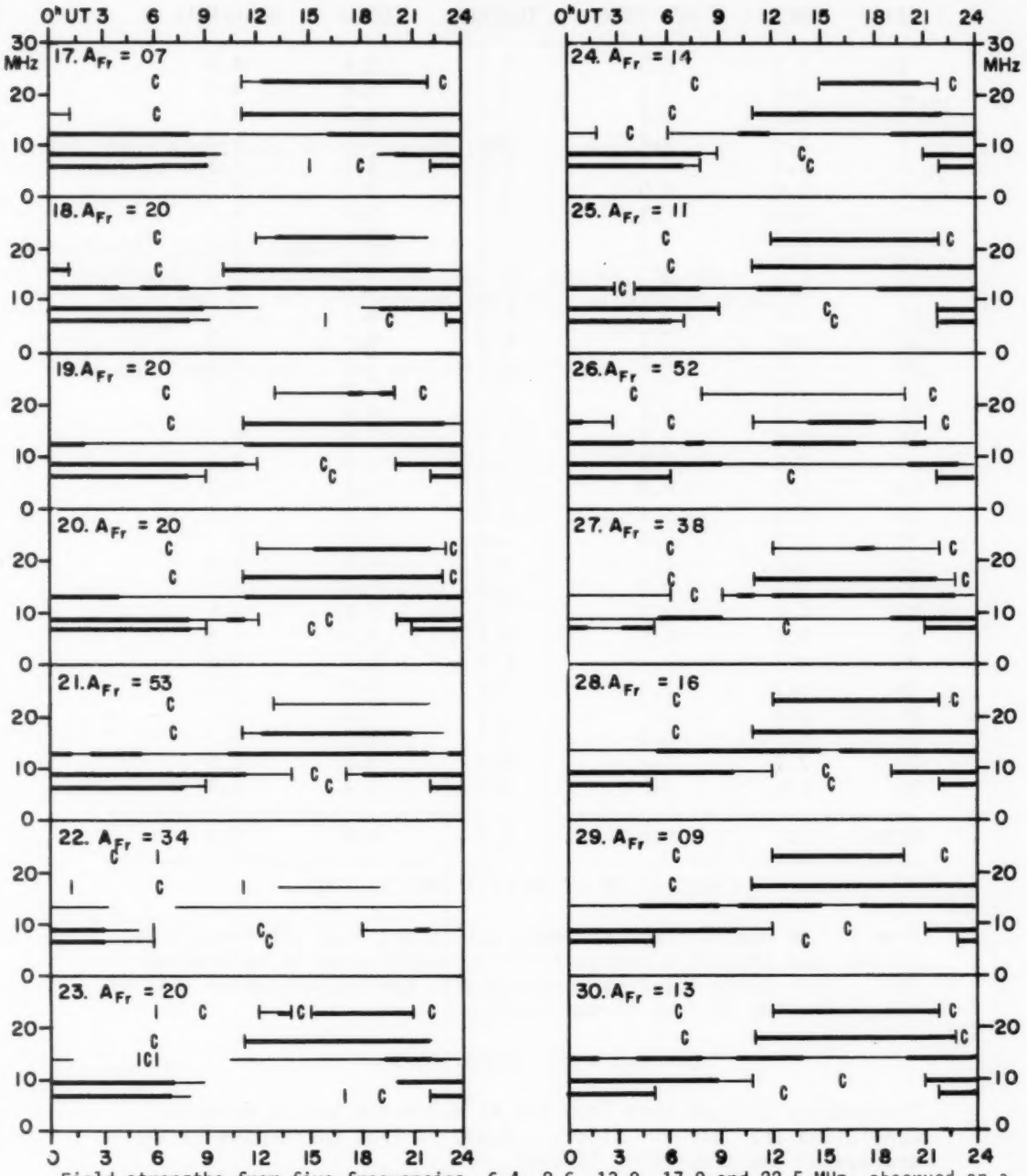
TRANSMISSION FREQUENCY RANGES -- NORTH ATLANTIC PATH

SEPTEMBER 1982



TRANSMISSION FREQUENCY RANGES -- NORTH ATLANTIC PATH

SEPTEMBER 1982



Field strengths from five frequencies, 6.4, 8.6, 13.0, 17.0 and 22.5 MHz, observed on a Norddeich -New York circuit are represented above. Heavy solid lines represent field strengths ≥ -12 dB above 1 μv/m (transmitter power reduced to 1 kW). Observed field strengths between -12 dB above 1 μv/m and -40 dB above 1 μv/m are represented by the fine line.

RADIO PROPAGATION QUALITY INDICES

September 1982

DAY	TOKYO	NEW YORK	TEHERAN	OSLO	BRACKNELL
1	7.1	6.9	5.4	5.4	4.8
2	6.8	7.1	6.3	5.4	4.2
3	6.5	5.4	7.9	4.7	3.4
4	5.8	5.4	6.1	5.1	5.2
5	5.6	2.7	5.0	5.3	5.3
6	0.4	0.0	0.0	2.9	2.7
7	2.1	1.1	5.0	2.6	4.5
8	4.8	3.3	4.3	3.0	3.2
9	6.5	4.2	3.7	3.4	3.4
10	6.9	7.8	8.7	4.8	4.9
11	7.5	7.1	4.9	4.1	5.3
12	7.3	7.1	4.3	4.9	5.5
13	7.0	7.0	8.4	7.8	6.9
14	7.2	7.0	7.6	4.7	7.8
15	7.3	7.5	6.8	4.4	7.5
16	7.6	8.5	9.1	7.6	8.7
17	7.5	7.6	7.9	4.9	5.5
18	6.9	6.4	6.5	4.8	5.0
19	6.5	6.4	5.5	4.9	6.1
20	6.9	6.8	7.8	5.0	6.7
21	5.8	4.1	7.7	4.6	4.6
22	2.7	0.0	2.9	0.3	1.3
23	4.8	3.3	4.3	5.0	5.5
24	5.6	5.8	4.7	5.3	6.2
25	7.3	7.6	4.7	5.6	6.4
26	6.3	2.5	4.4	5.0	5.1
27	4.6	5.7	6.1	5.6	5.1
28	6.3	8.5	3.7	5.3	5.1
29	7.2	7.7	4.4	7.0	6.0
30	6.6	7.0	4.4	8.4	8.3
MEAN	6.0	5.6	5.6	4.9	5.3

CALCULATION OF QUALITY INDICES (Q)

From all 24 hourly field strength values and from all frequencies of the same circuit a median field strength value is calculated (FD). This daily value is compared with the average value (FA) of the preceeding 27 days (1 sun rotation).

$$Q = 6.0 + 20 \log(FD/FA)/3.0$$

The quality indices vary from 0.0 to 9.9 where 6.0 is normal. Conditions are "normal" (index = 6.0), if they correspond to the average of the preceeding 27 days.

Scale for Quality Indices

0.0 - 1.0 = very poor
1.1 - 3.0 = poor
3.1 - 5.0 = fair
5.1 - 7.0 - normal
7.1 - 9.0 = good
9.1 - 9.9 = very good

SGD 459 Part I (Prompt)

LATE DATA

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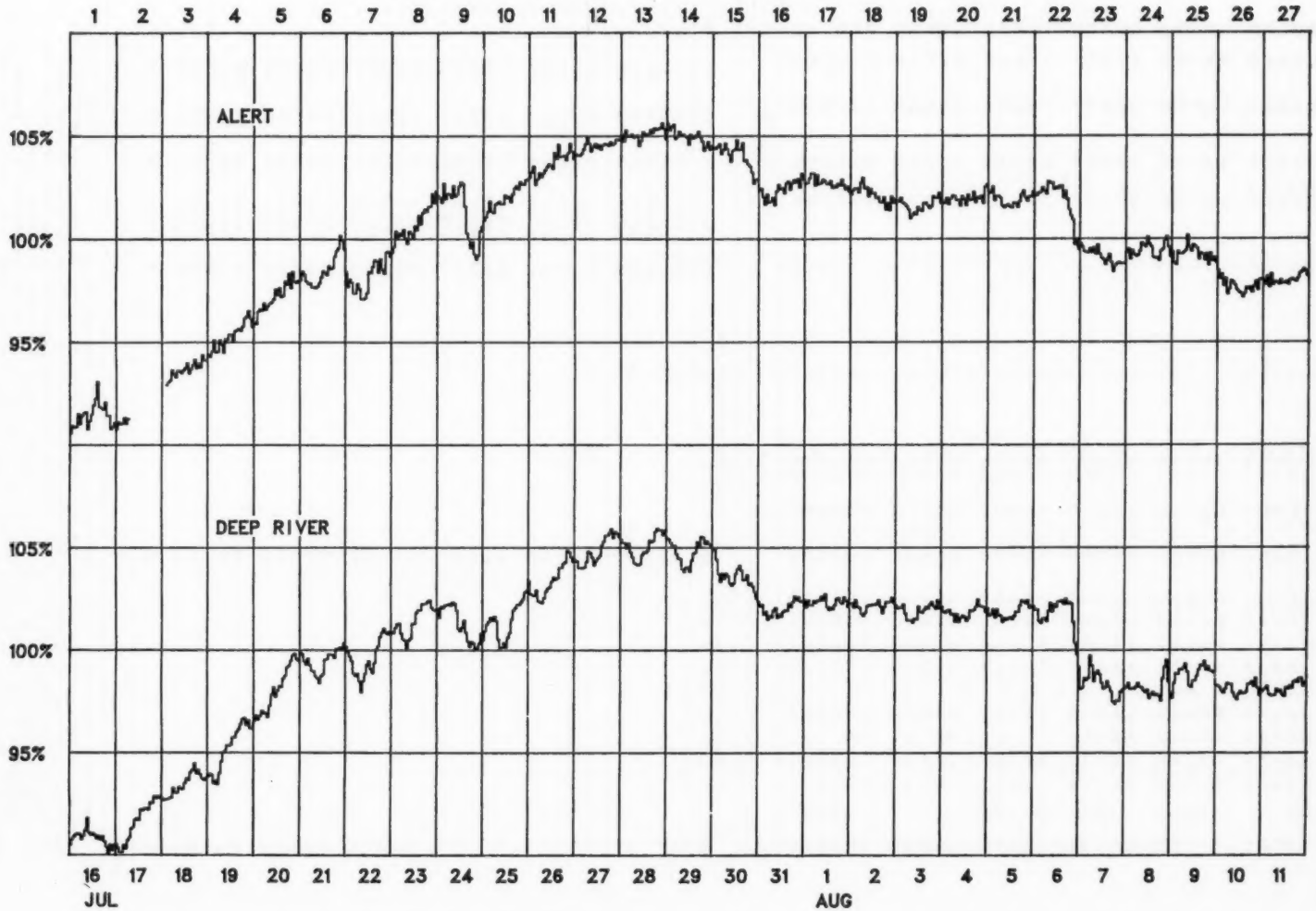
COSMIC RAY INDICES
(Neutron Monitor)
August 1982

AUG 1982	ALERT	DEEP RIVER
Day	Average (cts/h)/100	Average (cts/h)/300
1	6348.0	5978.5
2	6311.6	5969.6
3	6280.7	5955.2
4	6301.8	5950.6
5	6298.8	5952.1
6	6297.3	5950.0
7	6127.0	5747.3
8	6146.5	5736.3
9	6135.2	5773.3
10	6039.5	5731.9
11	6058.2	5733.4
12	6066.3	5764.7
13	6135.8	5813.5
14	6192.0	5850.0
15	6252.8	5899.3
16	6282.4	5918.0
17	6294.2	5934.6
18	6306.8	5972.8
19	6313.6	5964.0
20	6318.0	5954.0
21	6314.0	5992.1
22	6334.5	5993.1
23	6304.8	5959.8
24	6314.6	5944.2
25	6286.1	5935.9
26	6287.2	5937.1
27	6289.2	5916.3
28	6264.8	5941.8
29	6242.8	5917.0
30	6235.2	5895.8
31	6274.5	5910.3
Mean	6246.9	5899.8

For less than 24-hour coverage, parentheses enclose the number of hours for which data are available. For Climax and Huancayo, parentheses enclose the number of section hours whenever the sum of both sections falls below 40 hours.

COSMIC RAY INDICES
(Neutron Monitor)

Bartels Rotation 2036 (July 1982–August 1982)



GEOMAGNETIC ACTIVITY INDICES

AUGUST 1982

Day	Three-Hourly Indices (Kp) 1	2	3	4	5	6	7	8	Sum	Ap	Cp	Three-Hourly Indices (Km) 1	2	3	4	5	6	7	8	Am	aa (Provisional) N	S	M	
1	Q0A 2+	3-	2-	2	3	2+	3+	3+	21-	12	0.7									22	25	19	17	28	
2	D2 4+	4-	3-	5	5+	6	6+	6+	40-	55	1.6									64	91	39	44	86	
3	4	4	4-	4	4+	4	4	3+	31+	26	1.2									45	42	36	34	43	
4	3-	2+	2+	3	3	3+	4	3	24-	15	0.8									27	32	25	25	33	
5	3-	3-	4+	3-	3+	4	3+	3	26	18	1.0									33	33	23	28	28	
6	3+	2+	2	4+	4	3	5+	5-	29	25	1.2									38	49	27	30	47	
7	D1 6	8-	7+	7-	7	8-	3+	1	47-	107	1.9									129	114	87	128	74	
8	Q2 1+	1	2-	2-	2	2	2	2-	13+	6	0.3									12	17	7	8	16	C
9	2	2-	4-	4	1+	4+	5	5-	27-	23	1.1									34	36	22	25	33	
10	D5 4+	4-	5-	4-	4-	4+	4-	4-	32-	27	1.2									43	42	37	38	41	
11	4-	3-	2+	4	5-	5+	5	2	30-	28	1.2									40	41	33	29	45	
12	3-	3	3+	4+	5+	3+	3-	3	28-	22	1.1									37	31	31	30	32	
13	Q6A 2+	3-	3	2+	3-	2-	2-	3-	19	10	0.6									19	24	16	22	19	
14	Q4A 2+	2-	1+	1+	1+	2+	2+	2-	14+	7	0.3									14	19	8	13	14	K
15	Q1 2-	1-	0	0+	1-	1-	1-	2-	6+	3	0.1									6	9	4	6	8	CC
16	Q3K 1-	1+	1-	1-	1+	2+	2	3	12	6	0.3									12	16	6	4	18	KK
17	3-	3+	3	1+	2	1	4	5-	22	16	0.9									35	28	22	24	27	
18	3+	3+	3	2-	3	3	3+	4	25-	16	0.9									29	33	20	25	29	
19	Q5A 2+	2+	2	2+	2-	2	3+	3-	19-	10	0.5									19	20	13	15	18	
20	Q9A 3	2	1	2	3+	2+	3	3+	20	12	0.7									22	25	17	15	28	
21	4	4	2+	3-	3-	3	2+	2	23	15	0.8									25	31	27	38	21	
22	3+	2+	2+	3+	4	4+	5	4+	29	24	1.2									39	46	27	24	50	
23	3	2+	3	3-	3+	4-	3+	4	25+	17	0.9									31	34	25	22	38	
24	4	4-	4-	3-	4-	3	3+	2	26	18	1.0									34	34	27	31	31	
25	3	3+	4	3+	3	3	3-	5-	27	20	1.0									36	40	32	36	36	
26	3+	3	3+	3	5	3-	3	4-	27	20	1.0									35	38	36	29	44	
27	Q8A 3+	3-	2+	3-	3-	2+	2+	2+	21-	11	0.6									20	27	12	21	19	
28	Q7A 2-	1-	1	2	1+	3-	4-	5-	18-	12	0.7									19	28	19	11	35	
29	D3 4-	4+	6-	5-	6-	4+	4-	4-	36-	38	1.4									52	48	47	53	43	
30	D4 3	4+	5	4-	4	4	4	4-	32-	28	1.2									43	48	42	45	46	
31	3	3	4-	2-	4-	3-	3	3+	24	16	0.9									29	27	20	20	28	
Mean										21	0.91									33.6	36.5	26.0		31.4	

Day	Three-Hourly Indices (Kn) 1	2	3	4	5	6	7	8	An	Three-Hourly Indices (Ks) 1	2	3	4	5	6	7	8	As	Sa	RI	Ra	Rs	IMF	
1									22									22	123.4	55	61	71	A	-	
2									65									63	138.2*	68	66	87	A	-	
3									46									44	153.5*	68	76	104	A	-	
4									28									26	167.3	81	88	119	A	-	
5									35									30	180.9	97	109	133	A	-	
6									41									35	201.2	128	141	155	A	-	
7									141									118	219.6	144	163	175	T	-	
8									15									9	217.5*	150	174	173	A	-	
9									40									29	212.5	161	167	167	A	-	
10									43									43	209.5	155	160	164	T	-	
11									41									38	205.0*	157	150	159	A	-	
12									41									32	195.2*	138	134	149	A	-	
13									21									18	182.9*	113	113	136	A	-	
14									16									13	176.8	100	110	129	A	-	
15									6									5	173.0	100	110	125	A	-	
16									13									12	161.4	86	92	112	T	-	
17									27									43	165.1	93	104	116	T	-	
18									28									31	166.4*	105	111	118	T	-	
19									20									19	159.2	91	94	110	T	-	
20									23									22	144.7	77	88	94	T	-	
21									25									26	138.6	79	85	88	T	-	
22									34									44	138.8	90	84	88	T	-	
23									32									31	141.2	71	79	90	T	-	
24									33									34	142.9	79	86	92	T	-	
25									35									36	158.5	101	107	109	T	-	
26									34									36	166.4	98	102	118	T	-	
27									21									20	180.4	104	123	133	T	-	
28									21									18	181.4	120	139	134	TA	-	
29									55									49	183.4	132	139	136	A	-	
30									45									41	174.5	134	141	126	A	-	
31									30									28	175.0*	109	115	127	A	-	
Mean									34.7									32.7	172.1	105.9	113.3	123.9			

The Geophysikalisches Institut, University of Goettingen, prepares the quiet (Q) and disturbed (D) days, geomagnetic planetary 3-hour-range indices (Kp), magnetic character figures (Cp) and average amplitude (Ap). The 10 most quiet days [Q1-Q0(10)] and the five most disturbed days (D1-D5) are ordered from most quiet and from most disturbed, respectively. A or K means "not really quiet" (A implies Ap>6 and K implies Ap<6 with either one Kp>30 or two Kp values >3-). An asterisk means "not really disturbed" (Ap<20).

Geomagnetic 3-hour indices Km, Kn, Ks and daily mean values Am, An, As and indices aa are prepared by M. Menvielle of the Institut de Physique du Globe, Paris, France. For aa indices, daily north (N) and south (S) values and half-daily antipodal mean (M) values are given. C indicates really quiet 24- and 48-hour intervals centered on 1200 UT; K indicates similar periods with some slightly disturbed 3-hour intervals.

NOTE: All aa indices are provisional from 1 January 1981 until further notice, because of the change in the Southern Hemisphere observatory.

DAILY AVERAGE INDICES Ap

Day	1981 Sep	Oct	Nov	Dec	1982 Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
1	5	9	7	6	9	41	68	20	22	20	18	12
2	18	22	5	9	9	60	107	42	30	18	10	55
3	9	36	8	8	20	35	13	48	45	9	6	26
4	11	17	6	10	12	49	12	22	19	7	2	15
5	17	7	11	9	4	37	16	21	14	6	4	18
6	8	6	9	4	10	39	3	18	6	14	15	25
7	5	32	19	3	12	26	3	5	4	14	21	107
8	10	25	27	15	9	18	11	12	5	9	15	6
9	11	21	4	10	4	15	20	10	8	16	10	23
10	9	27	13	9	4	35	16	61	5	51	10	27
11	21	46	31	6	5	45	10	47	9	32	36	28
12	10	12	39	23	2	41	8	15	6	59	48	22
13	12	17	5	12	4	54	13	11	6	62	144	10
14	10	73	27	6	3	42	11	6	8	24	153	7
15	10	20	20	6	12	18	7	10	20	26	36	3
16	7	8	17	4	17	6	4	11	10	10	50	6
17	4	18	32	7	10	30	14	19	12	6	24	16
18	18	6	26	14	13	34	20	12	20	7	24	16
19	38	23	14	10	3	36	10	8	12	24	28	10
20	9	67	13	6	6	26	12	20	8	18	24	12
21	7	33	15	6	14	21	23	32	8	9	11	15
22	13	72	11	3	27	51	38	18	4	20	16	24
23	4	27	20	6	22	29	8	9	2	20	12	17
24	7	18	9	10	21	24	12	15	4	21	50	18
25	13	18	27	8	9	42	20	52	8	17	22	20
26	32	10	9	6	7	43	11	7	24	16	27	20
27	21	10	4	6	13	12	9	24	54	32	27	11
28	6	19	6	12	17	10	6	21	56	27	21	12
29	14	12	4	32	11		13	31	35	19	22	38
30	15	12	1	30	27		15	30	35	39	23	28
31		4		18	34		20		31		25	16
Mean	12	23	15	10	12	33	18	22	17	22	30	21

SUDDEN COMMENCEMENTS AND SOLAR FLARE EFFECTS

AUGUST 1982

PRELIMINARY REPORT ON RAPID VARIATIONS

Sudden Commencements (ssc)

6	18 36	A: VIC HTY LNP; B: WNG CLF MMB TOL KAK KNY BNG; C: NGK MPO

Solar Flare Effects (sfe)

4	03 42	- 03 46	LNP (ssc: B: COI)
4	13 20	- 13 32	TOL
8	02 04	- 02 30	MMB KAK HTY KNY LNP
8	22 06	- 22 12	LNP
8	23 41	- 23 49	LNP
9	01 09	- 01 17	LNP
9	08 28	-	BNG
11	08 45	- 08 50	LNP (ssc: B: BNG)
14	02 40	- 03 09	KAK HTY
14	04 00	- 04 20	MMB KAK HTY KNY
14	05 06	- 05 25	MMB KAK KTY KNY
17	13 15	- 13 48	SOD
19	01 03	- 01 07	LNP
22	04 14	- 04 21	LNP (ssc: A: COI)
27	03 24	- 03 26	LNP
27	05 42	- 05 52	LNP
27	10 18	- 10 26	NGK
29	12 48	-	BNG

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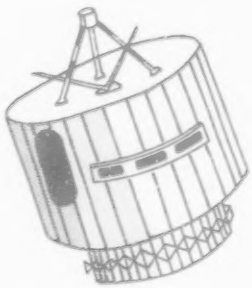
DATA ANNOUNCEMENT

SPACE ENVIRONMENT DATA from the SMS & GOES SATELLITES

The Space Environment Monitor instrument package on-board all SMS/GOES satellites has provided magnetometer, energetic particle, and soft X-ray data continuously since July 1974. Two SMS/GOES satellites operate simultaneously in the Earth's equatorial plane. They travel in geosynchronous orbit (6.67 Earth radii) and are generally located at 75° and 135° west longitude. This trajectory allows the detectors an unobstructed view of the Sun for all but the few dozen hours per year that the Earth eclipses the Sun. The time resolution for all three sensors is approximately 3 seconds, which permits one month's data from each sensor to be stored on a single 9-track, 1600-BPI, binary tape. Plots are available on microfilm.

MAGNETOMETER

A twin fluxgate spinning sensor allows representation of the Earth's magnetic field in three mutually perpendicular components: H_p, H_e and H_n. H_p is parallel to the satellite spin axis, which is itself perpendicular to the satellite's orbital plane. H_e lies parallel to the satellite-Earth center line and points earthward. H_n is perpendicular to both H_p and H_e, and points westward. Field strength changes as small as 0.2 gamma can be measured.



PARTICLE DETECTOR

Solid state detectors with pulse height discrimination measure protons from 0.8 to 500 MeV, alpha particles from 4.0 to 392 MeV, and electrons with kinetic energies greater than or equal to 2.0 MeV. Since solar protons and alpha particles in these energy ranges accelerated in solar flares can reach the vicinity of Earth, they pose a hazard to manned space flight and to high-altitude aircraft. They can as well significantly affect the high-latitude ionosphere.

X-RAY DETECTOR

Ion chamber detectors provide whole Sun fluxes for the 0.5-to-4 and 1-to-8 Angstrom X-ray wavelength bands. These observations furnish a sensitive means of detecting the start of solar flares and thereby changes in the dayside ionosphere.

Address your inquiries to Mrs. Viola Miller, National Geophysical Data Center, NOAA code D631, 325 Broadway, Boulder, Colorado 80303, USA (Telephone (303) 497-6136, FTS 320-6136).